MSI MEGA PC

User's Guide

CE **⊘ N1996**

FCC-B Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.
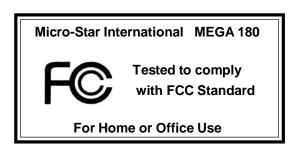
Notice 1
The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Notice 2
Shielded interface cables and AC. power cord, if any, must be used in order to comply with the emission limits.

VOIR LA NOTICE D'INSTALLATION AVANT DE RACCORDER AU RESEAU.

Micro-Star International   MEGA 180

FC

**Tested to comply
with FCC Standard**

For Home or Office Use

Lithium Battery Statement

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufactuer. Discard used batteries according to the manufacturer's instructions.

Macrovision® Statement

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing users only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

ATTENTION!
Due to proprietary mechanical design, MSI only guarantees the compatibility of the Mega PC with MSI's own Optical Storage Devices!!

⚠ ATTENTION!

For best functionality, MSI strongly recommends users to pair the Mega PC with the following MSI Optical Storage Devices:

DVD-ROM:
MSI 16X DVD-ROM D16 (MS-8216)

CD-RW:
MSI 52x32x52 CR52-M CD-RW (MS-8352M)

Note: Due to proprietary mechanical design, MSI only guarantees the compatibility of the Mega PC with MSI's own Optical Storage Devices!!

Safety Instructions

1. Always read the safety instructions carefully.
2. Keep this User's Manual for future reference.
3. Keep this equipment away from humidity.
4. Lay this equipment on a reliable flat surface before setting it up.
5. The openings on the enclosure are for air convection hence protects the equipment from overheating. DO NOT COVER THE OPENINGS.
6. Make sure the voltage of the power source and adjust properly 115/230V before connecting the equipment to the power inlet.
7. Place the power cord such a way that people can not step on it. Do not place anything over the power cord.
8. Always Unplug the Power Cord before inserting any add-on card or module.
9. All cautions and warnings on the equipment should be noted.
10. Never pour any liquid into the opening that could damage or cause electrical shock.
11. If any of the following situations arises, get the equipment checked by a service personnel:
    - The power cord or plug is damaged.
    - Liquid has penetrated into the equipment.
    - The equipment has been exposed to moisture.
    - The equipment has not work well or you can not get it work according to User's Manual.
    - The equipment has dropped and damaged.
    - The equipment has obvious sign of breakage.
12. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT UNCONDITIONED, STORAGE TEMPERATURE ABOVE 60^0 C (140^0F), IT MAY DAMAGE THE EQUIPMENT.

> **CAUTION:** Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.

Copyright Notice

Trademarks

Revision History

Revision	Revision History	Date
V1.0	First Release	Aug. 2003
V1.1	Change bezel, remote controller; add WLAN(for Deluxe model) and Media Center Deluxe III	Dec. 2003

CONTENTS

Introducing Your
"Digital Media Platform"

Thank you for purchasing the MEGA 180, the Best of Computing & Home Entertainment. Based on the design idea of consumer product, the MEGA 180 is not just a PC anymore. The "All-in-One" feature positions MEGA 180 as a Digital Media Platform.

From the recent years, the ownership and usage of desktop and notebook PCs across W.W. households has turned computers into a commodity item. While Microsoft strongly promotes the "Media Center" platform concept "Windows XP Media Center Edition" on HP "Free Style", Intel is also exploring their "Digital Home" concept for the "Home-use" PC.

To meet the new concept of Home PC, the MEGA 180 has been positioned as a Digital Media Platform to perform TV-recording (optional), home theater (DVD+5.1 channels), digital audio playback (MP3, Audio CD), photo and video stream data browsing. Meanwhile, it can also support high game performance (AGP 8x slot). On the other hand, the remote controller allows you to use it like an advanced Hi-Fi stereo in playing CD/MP3 and listening to radio.

Deluxe model

An innovative home PC that implements the Hi-Fi stereo into PC with a fancy color LCD and control panel on the front bezel

maximize your connection to the digital planet

- Hi-Fi Stereo: Audio CD+MP3 Player+AM/FM Tuner
- Home Theater: DVD + 5.1 Channel + TV Tuner (option)
- Multimedia Center: Card Reader (for Deluxe model) + 1394 +
  SPDIF I/O +PVR
- Wireless LAN: Mini PCI wireless LAN card (for Deluxe model)
- Completed PC: Office + Game Machine

A New Digital Media Form Factor from MSI That Allows You to
- Control Live Television
- Enjoy Home Theater (DVD + 5.1 Channel)
- Listen to Digital Music (MP3, Audio CD)
- Burn Music, Photos and Video
- View Your Favorite Photos
- Incredible Gaming Performance
- And more.....

For Home, For Work & For Fun

1
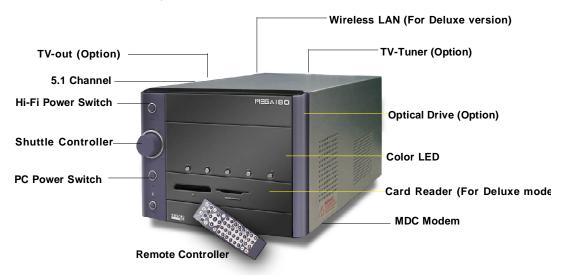
Getting Started

1.1 All-in-One Feature Set

1.2 System Specification

1.3 Performance PC

1.4 Hi-Fi Audio

1.5 Home Theater

Chapter 1
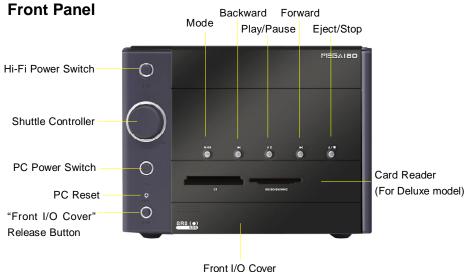
1.1 All-in-one Feature Set

The MEGA 180 implements all the Hi-Fi Stereo into Home-PC with a fancy color LED and control panel in the front bezel. When PC is powered off, you can use it just like a Hi-Fi Stereo with a remote controller. When PC is powered on, you can use it as a Home Theater or Media Center PC. The all-in-one feature provides you with multiple functions in a small form factor. It can be set anywhere you want, such as bedroom or living room, while it can easily be moved to anywhere whenever you need.

See the following for the features:

Wireless LAN (For Deluxe version)

TV-out (Option)

TV-Tuner (Option)

5.1 Channel

Hi-Fi Power Switch

MEGA180

Optical Drive (Option)

Shuttle Controller

Color LED

PC Power Switch

Card Reader (For Deluxe mode

MDC Modem

Remote Controller

Front Panel

Mode

Backward   Forward
Play/Pause   Eject/Stop

Hi-Fi Power Switch

Shuttle Controller

PC Power Switch

PC Reset

"Front I/O Cover"
Release Button

Card Reader
(For Deluxe model)

Front I/O Cover
(See p. 2-7 for information on front I/O.)

Back Panel

Mouse
Power Jack   LAN Port   Parallel Port

Radio Antenna
Jack

VGA 2

Modem

VGA 1

Keyboard
USB x 2   SPDIF-out
S-Video out

Audio Ports

PCI Slot
AGP Slot

●●●●●●●●●●●●●●●●●●●●●●●●●**1-3**

1.2 System Specification

❏ **M/B**

- MS-6796 (Proprietary F/F), 185 x 290 mm (6 layers)

❏ **CPU:**

- Support Socket 462 for AMD® Athlon™/Duron™/Athlon XP™ up to 3000+

❏ **Chipset:**

- nVIDIA nFORCE2 (Crush 18G) + MCP2T

❏ **Memory:**

- DDR 333 x 2, support memory up to 2.0GB (Dual Channel support)

❏ **On-Board Audio:**

- AC'97 Codec integrated in Reltek650, support 5.1 channel, SPDIF In/Out

❏ **On-Board VGA:**

- Integrated in nFORCE2 (AGP 8X)
- On-Board VGA memory: None

❏ **On-Board Communication**

- LAN: RTL8201BL (10/100Mb)
- Modem: 56K MDC module
- WLAN: Mini-PCI (For Deluxe model)

❏ **On-Board TV-out**

- Integrated in Crush18G

❏ **On-Board USB**

- Front x 2; Rear x 2; On-Board x 1 for Card Reader

❏ **On-Board IEEE 1394**:

- Agere FW802B (2 ports), Front x 2 (4 pin, 6 pin)

❏ **Expansion Slots:**

- PCI 2.2 x 1, AGP (8X) x1

❏ **Power Off Function:**

- Playback Audio CD, MP3, AM/FM Radio Tuner (with Remote Controller)

❏ **TV Tuner Function**

- MS-8606 (Optional PCI TV Tuner card with remote controller)

❑ **Power Supply:**

- 200W (PFC 5V/12V SB) Full Range

❑ **Chassis:**

- 202(W) x 320(D) x 151(H) mm

❑ **On-Board Headers & Connectors**

- Rear Panel: Parallel Port x 1, VGA x 2, PS/2 x 2, Mic in/Line in/Line out x 1, USB x 2, LAN (RJ45) x 1, SPDIF/O x 1, Modem (RJ11) x 1, TV-out (S-Video)
- Front Panel: Mic-in x 1, Headphone x 1, USB x 2, SPDIF/I x 1, 1394 x 1 (4-pin), 1394 x 1(6-pin)

❑ **BIOS**

- 4MB Flash

❑ **Clock Generator**

- Integrated in Crush18G and MCP2T

❑ **Others**

- Microsoft® PC 2001
- LAN Wake Up Function
- Suspend to RAM/Disk function
- Top Tech III (Thermal Overheat Protection Technology)
- PC Alert System Hardware Monitor
- On-Board BlueBird Module for Power-Off features
- Color LED

> **WARNING!!!**
>
> *The power supply is set to 230V when shipped out. To make sure your system can work normally, please double check if the default voltage matches with your country.*

1.3 Performance PC

When PC is power on, the MEGA180 is your performance PC. Power on means "If the power button of PC is pressed, the Hi-Fi stereo has no function even you press the Hi-Fi button." However, you can still use the audio function through Windows Media Player and Mega Radio.

Press the Power button to start the PC function

Deluxe model

Features

CPU support:
AMD® Athlon™/Duron™/Athlon XP™
PCI/AGP Expansion

Front I/O
- Mic-in & Head-Phone
- USB x 2
- 1394 x 2 (6-pin & 4-pin)
- Optical SPDIF-in
- 5-in-1 Card Reader(for Deluxe model)

Rear I/O
- COM/VGA/Parallel/PS2 x 2
- LAN (RJ45)
- USB x 2
- Optical SPDIF-out
- Speaker-out/Line-in/Mic-in (5.1channel)
- Modem
- Radio Antenna

See Chapter 2 for more information on mainboard, Front and Rear I/O.

❏ **Target Operating System**

-- Microsoft Windows XP Home Edition

❏ **Security**

-- The security features protect the data of machine from unauthorized access through BIOS control.

❏ **Password**

-- The MEGA180 uses two levels of BIOS access (User Password & Supervisor Password) to protect the computer system.

❏ **Storage Subsystem**

1) Hard Disk
2) CD-ROM (OPTIONAL)
3) DVD-ROM (OPTIONAL)
4) CD-RW (OPTIONAL)
5) DVD/CD-RW Combo
6) 5-in-1 Card Reader (for Deluxe model)

WARNING !

⚠

DO NOT TOUCH THIS
POWER BUTTON IF CPU
IS NOT INSTALLED
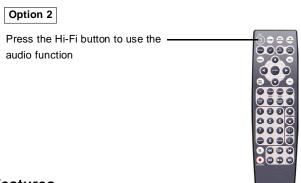
In pure barebone Hi-Fi mode with NO CPU, Memory, and Had Disk installed, if you push the PC power button, the system will be no function or hang up. The Hi-Fi mode will also malfunction. It's impossible to recover the system by pressing power button for 4 seconds. The only way is to unplug power cord and reset the system.

Chapter 1

1.4 Hi-Fi Audio

When PC is powered off, the MEGA 180 can be used as a Hi-Fi audio. You can press the Hi-Fi button or use the remote controller to start the audio function. Power-off means "When used as a Hi-Fi audio, the PC should be in power-off status. If you press the PC power button on, the Hi-Fi audio will be disabled ."

Option 1

Press the Power button to use the
audio function

Deluxe model

Option 2

Press the Hi-Fi button to use the
audio function

Features
Color LED, Clock, AM/FM Radio Tuner, Audio CD Play,
MP3 CD Play, SRS

See Chapter 3 for more information on the audio function.

SRS

MEGA 180 is equipped with SRS audio enforce-ment technology. SRS (Sound Retrieval System) was the first generation of 3D sound, dramatically improv-ing the quality of standard stereo. SRS is based on the human hearing system and was designed to retrieve the natural spatial cues and ambient information that is present in audio but masked by traditional record-ing and playback methods.

Whether the signal is mono or stereo, SRS ex-pands the audio material to create a realistic three-dimensional sound image. SRS has no sweet-spot and fills the room with a sound experience much closer to that of a live performance.

SRS is a trademark of SRS Labs, Inc. SRS tech-nology is incorporated under license from SRS Labs, Inc.

WARNING !
KEEP OTHER OBJECTS AWAY
FROM THIS VENTILATION HOLE
AT LEAST 2.5CM AND ABOVE
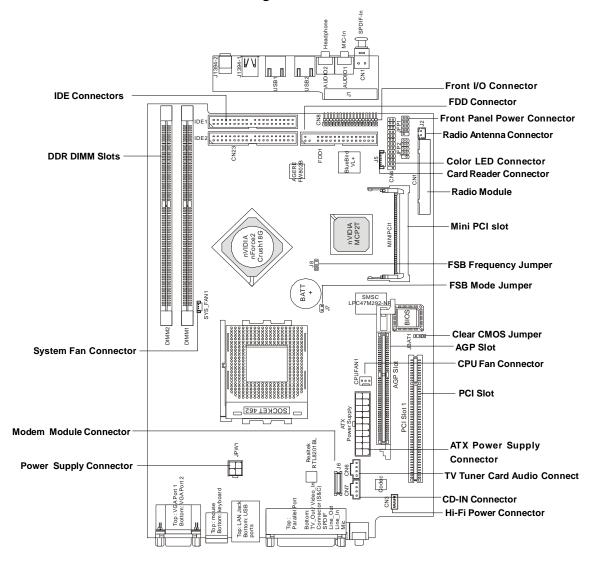
After connecting the speaker, please keep at least 2.5 CM space between speaker and the venting holes on the chassis. Do not let the speaker block the venting holes.

Chapter 1

2

Introducing Mainboard

2.1 Mainboard Layout

2.2 CPU

2.3 Memory

2.4 Power Supply

2.5 Front Panel

2.6 Back Panel

2.7 Connectors

2.8 Jumper

2.9 Slots

2.1 Mainboard layout

MS-6796 v1.X Mainboard

2.2 CPU

The MEGA 180 supports **AMD® Athlon™**, **Duron™**, **Athlon™ XP up to 3000+** processors in the 462-pin package. The mainboard uses a CPU socket called Socket A for easy CPU installation. When you are installing the CPU, make sure the CPU has a heat sink and a cooling fan attached on the top to prevent overheating.

CPU Clock Frequency Selection

The hardware configuration for CPU clock frequency of the motherboard is set to 100MHz by default. Therefore, to make a 133MHz CPU run at 133MHz when it is installed on the board, you have to adjust the CPU clock frequency through jumpers. To set the clock frequency for the installed CPU, refer to *Jumpers* in *later section*.

STOP

WARNING! **Thermal Issue for CPU**

As processor technology pushes to faster speeds and higher performance, thermal management becomes increasingly crucial when building computer systems. Maintaining the proper thermal environment is key to reliable operation. As such, the processor must be maintained in the specified thermal requirements.

AMD Athlon™ /Duron™ /Athlon™ XP processor with a speed of **600MHz and above** requires a LARGER heatsink and fan. You also need to add thermal grease between the CPU and heatsink to improve heat dissipation. Then, make sure that the CPU and heatsink are se-

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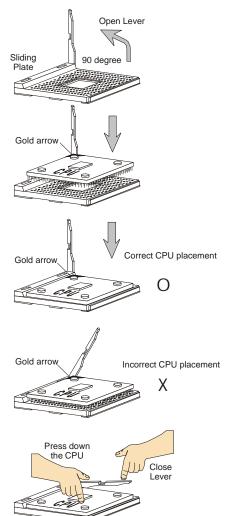
CPU Installation Procedures

1.   Please turn off the power and unplug the power cord before installing the CPU.

2.   Pull the lever sideways away from the socket. Make sure to raise the lever up to a 90-degree angle.

3.   Look for the gold arrow. The gold arrow should point towards the lever pivot. The CPU can only fit in the correct orientation.

4.   If the CPU is correctly installed, the pins should be completely embedded into the socket and can not be seen.

      Any violation of the correct installation procedures may cause permanent damages to your mainboard.

5.   Press the CPU down firmly into the socket and close the lever.

      Always close the lever with your fingers pressing tightly on top of the CPU to make sure the CPU is properly and completely embedded into the socket.

2.3 Memory

The mainboard provides 2 slots for 184-pin DDR SDRAM DIMM (Double In-Line Memory Module) modules and supports the memory size up to 2GB. You can install PC2700/DDR333, PC2100/DDR266 or PC1600/DDR200 modules into the DDR DIMM slots (DIMM1&DIMM2).

Introduction to DDR SDRAM

DDR (Double Data Rate) SDRAM is similar to conventional SDRAM, but doubles the rate by transferring data twice per cycle. It uses 2.5 volts as opposed to 3.3 volts used in SDR SDRAM, and requires 184-pin DIMM modules rather than 168-pin DIMM modules used by SDR SDRAM. High memory bandwidth makes DDR an ideal solution for high performance PC, workstations and servers.

Memory Speed/CPU FSB Support Matrix

	DDR266	DDR333
FSB266	V	V
FSB333	V	V

DIMM Module Combination

Install at least one DIMM module on the slots. You can install either single- or double-sided modules in any order to meet your own needs. Memory modules can be installed in any combination as follows:

Slot	Memory Module	Total Memory
DIMM 1 (Bank 0 & 1)	DDR S/D	64MB~1GB
DIMM 2 (Bank 2 & 3)	DDR S/D	64MB~1GB
Maximum System Memory Suppported		64MB~2GB

S: Single Side
D: Double Side

2.4 Power Supply

The system is equipped with a 200W(PFC) ATX power supply. The power cord of power supply has been connected to the connector JWR1 on the mainboard when shipped out.   Except the 20-pin connector JWR1, you can find another 4-pin power connector JPW1 on the mainboard.

JWR1 Pin Definition

PIN	SINGAL	PIN	SIGNAL
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	GND	13	GND
4	5V	14	PS_ON
5	GND	15	GND
6	5V	16	GND
7	GND	17	GND
8	PW_OK	18	
9	5V_SB	19	5V
10	12V	20	5V

JWR1

JPW1 Pin Definition

PIN	SINGAL
1	GND
2	GND
3	12V
4	12V

JPW1
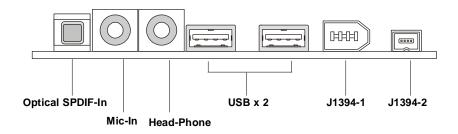
Power Supply Specification

Dimension	70 (H)x1450(W)x105(D) mm
PFC	Yes (passive)
Wattage	200W Max
Electrical Design Specification	AC Output :100-127/200-240 VAC, Switch Selectable, **Auto Protection** DC Output :+3.3V 17A :+5V 12A :+12V 13.5A :-12V 0.5A :+5Vsb 3A :+12Vsb 2.5A 80 mm PWM Fan
Certificate	FCC/UL/CUL/BSMI/CB/NEMKO/TUV

2.5 Front panel

The Front Panel is independent and extended from the mainboard. It's connected to the Front I/O Connector on the mainboard. You can find the following ports on the Front Panel.

Optical SPDIF-In	**USB x 2**	**J1394-1**	**J1394-2**
Mic-In **Head-Phone**			

IEEE 1394 Port: J1394-2

The mainboard provides two IEEE 1394 ports. This smaller one is designed for you to connect the IEEE 1394 device with external power. The IEEE 1394 high-speed serial bus complements USB by providing enhanced PC connectivity for a wide range of devices, including consumer electronics audio/video (A/V) appliances, storage peripherals, other PCs, and portable devices.

> **MSI**
>
> *Software Support*
> *IEEE 1394 Driver is provided by Windows® 98 SE, Windows® XP, Windows® ME and Windows® 2000. Just plug in the IEEE 1394 connector into the port. These Operating Systems will install the driver for IEEE 1394.*

IEEE 1394 Port: J1394-1

The bigger 6-pin IEEE 1394 Port on the back panel is designed for you to connect to IEEE 1394 devices without external power. That means the mainboard can provide the power for the devices connected to this port.

Software Support

IEEE 1394 Driver is provided by Windows® 98 SE, Windows® XP, Windows® ME and Windows® 2000. Just plug in the IEEE 1394 connector into the port. These Operating Systems will install the driver for IEEE 1394.

USB Ports

The mainboard provides an OHCI (Open Host Controller Interface) Universal Serial Bus root for attaching USB devices such as keyboard, mouse or other USB-compatible devices. You can plug the USB device directly into the connector.

USB Port Description

PIN	SIGNAL	DESCRIPTION
1	VCC	+5V
2	-Data 0	Negative Data Channel 0
3	+Data 0	Positive Data Channel 0
4	GND	Ground
5	VCC	+5V
6	-Data 1	Negative Data Channel 1
7	+Data 1	Positive Data Channel 1
8	GND	Ground

Mic-in/Head-Phone

Mic-in is a connector for microphone. Head-Phone is a connector for Speakers or Headphones.

OPTICAL SPDIF-in
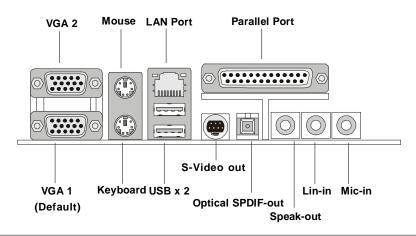
The OPTICAL connector allows you to receive the audio file of SPDIF interface for recording and playing.

The SPDIF (Sony & Philips Digital Interface) is developed jointly by the Sony and Philips corporations . A standard audio file transfer format, SPDIF allows the transfer of digital audio signals from one device to another without having to be converted first to an analog format.
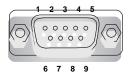
2.6 Back panel

The Back Panel provides the following ports:

VGA 2   Mouse   LAN Port   Parallel Port

S-Video out

VGA 1   Keyboard USB x 2   Lin-in   Mic-in
(Default)   Optical SPDIF-out

Speak-out

VGA Port

The mainboard provides two DB 15-pin VGA connectors for you to con-
nect two monitors. If you just want to connect one monitor, you must connect it
to the default VGA port.

1 2 3 4 5

6 7 8 9

9-Pin Female DIN Connector

Pin Definition

PIN	SIGNAL	DESCRIPTION
1	DCD	Data Carry Detect
2	SIN	Serial In or Receive Data
3	SOUT	Serial Out or Transmit Data
4	DTR	Data Terminal Ready
5	GND	Ground
6	DSR	Data Set Ready
7	RTS	Request To Send
8	CTS	Clear To Send
9	RI	Ring Indicate

> **MSI**
>
> *If you insert an AGP graphics card into AGP slot, the*
> *function of default VGA1 port will be disabled.*

Mouse/Keyboard Connectors

The mainboard provides two standard mini DIN connectors for attaching PS/2® mouse and keyboard. You can plug a PS/2® mouse or keyboard directly into the connector.

Pin Definition

PS/2 Mouse (6-pin Female)

PIN	SIGNAL	DESCRIPTION
1	Mouse DATA	Mouse DATA
2	NC	No connection
3	GND	Ground
4	VCC	+5V
5	Mouse Clock	Mouse clock
6	NC	No connection

Pin Definition

PS/2 Keyboard (6-pin Female)

PIN	SIGNAL	DESCRIPTION
1	Keyboard DATA	Keyboard DATA
2	NC	No connection
3	GND	Ground
4	VCC	+5V
5	Keyboard Clock	Keyboard clock
6	NC	No connection

RJ45 LAN Jack

The mainboard provides one standard RJ-45 jack for connection to Local Area Network (LAN). You can connect a network cable to the LAN jack.

Pin Definition

PIN	SIGNAL	DESCRIPTION
1	TDP	Transmit Differential Pair
2	TDN	Transmit Differential Pair
3	RDP	Receive Differential Pair
4	NC	Not Used
5	NC	Not Used
6	RDN	Receive Differential Pair
7	NC	Not Used
8	NC	Not Used

USB Ports

The mainboard provides two USB2.0 EHCI/USB1.1 OHCI Universal Serial Bus root for attaching USB devices such as keyboard, mouse or other USB-compatible devices. You can plug the USB device directly into the connector.

USB Port Description

PIN	SIGNAL	DESCRIPTION
1	VCC	+5V
2	-Data 0	Negative Data Channel 0
3	+Data 0	Positive Data Channel 0
4	GND	Ground
5	VCC	+5V
6	-Data 1	Negative Data Channel 1
7	+Data 1	Positive Data Channel 1
8	GND	Ground

USB Ports

S-Video Out Connector

You can connect to a TV or video device to S-Video out connector for video-out function which allows you to output the image to a TV or video device. The connector supports the formats including NTSC-M, NYSC-J, PAL, PAL-M, PAL-N, PAL-Nc.

TV

Projector

OPTICAL SPDIF-out
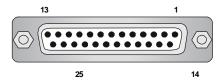
The OPTICAL connector allows you to play the audio file of SPDIF interface. It also supports Dolby Digital audio stream under nVIDIA driver. more information.

Parallel Port

The mainboard provides a 25-pin female centronic connector as LPT. A parallel port is a standard printer port that supports Enhanced Parallel Port (EPP) and Extended Capabilities Parallel Port (ECP) mode.

Pin Definition
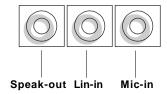
PIN	SIGNAL	DESCRIPTION
1	STROBE	Strobe
2	DATA0 Data0	
3	DATA1	Data1
4	DATA2	Data2
5	DATA3	Data3
6	DATA4	Data4
7	DATA5	Data5
8	DATA6	Data6
9	DATA7	Data7
10	ACK#	Acknowledge
11	BUSY	Busy
12	PE	Paper End
13	SELECT	Select
14	AUTO FEED#	Automatic Feed
15	ERR#	Error
16	INIT#	Initialize Printer
17	SLIN#	Select In
18	GND	Ground
19	GND	Ground
20	GND	Ground
21	GND	Ground
22	GND	Ground
23	GND	Ground
24	GND	Ground
25	GND	Ground

Audio Port

Speak-out is a connector for Speakers or Headphones. **Line In** is used for external CD player, Tape player, or other audio devices. **Mic-in** is a connector for microphones. These three ports can also be used for 5.1 channel audio output.

NOTE: When used for 5.1 channel audio output, Speak-out is used for "left/ right", Lin-in is used for "surround left/right" while Mic-in is used for "Center/LFE (Subwoofer).

Speak-out Lin-in   Mic-in

2.7 Connectors

IDE Connectors: IDE1 & IDE2
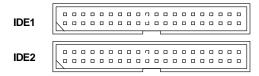
The mainboard has a 32-bit Enhanced PCI IDE and Ultra DMA 33/66/100/ 133 controller that provides PIO mode 0~4, Bus Master, and Ultra DMA/33/66/ 100/133 function. The two connectors on the mainboard allows you to connect to two IDE devices.

IDE1 (Primary IDE Connector)
- IDE1 can only connect a HDD.
IDE2 (Secondary IDE Connector)
- IDE2 can only connect a CD-ROM drive.

IDE1

IDE2
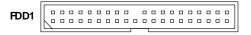
> *If you install two hard disks on cable, you must config-ure the second drive to Slave mode by setting its jumper. Refer to the hard disk documentation supplied by hard disk vendors for jumper setting instructions.*

FDD Connector: FDD1

The mainboard provides you with a standard floppy disk drive connector that supports 1.44M floppy disk type.

FDD1

CD-in Connector: CN7

The connector is for CD-ROM audio connector.

CN7

L
GND
R
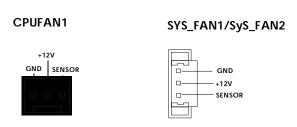
TV-Tuner Card Connector: CN6

The mainboard provides the connector to connect the TV-Tuner card. The TV-Tuner card is included in the package. You can insert the TV-Tuner card into the PCI Slot 1.

CN6

L
GND
R

CPU/System Fan Connectors: CPUFAN1/SYS_FAN1/SYS_FAN2
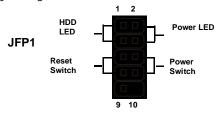
The CPU and System Fan connectors support system cooling fans with +12V that is controlled by PWM. When connecting the wire to the three-pin head connectors, always note that the red wire is the positive and should be connected to the +12V (that is controlled by PWM), the black wire is Ground and should be connected to GND.

CPUFAN1

+12V
GND | SENSOR

SYS_FAN1/SyS_FAN2

GND
+12V
SENSOR

Front Panel Power Connector: JFP1

The mainboard provides a Front Panel connector for electrical connection to the Front Panel switches and LEDs. JFP1 is compliant with Intel® Front Panel I/O Connectivity Design Guide.

```
                          1   2
              HDD        ┌─────┐
              LED   ─────┤ □ □ │───── Power LED
      JFP1         ─────┤ □ □ │
              Reset      │ □ □ │
              Switch ────┤ □ □ │───── Power
                    ─────┤ □ □ │      Switch
                          └─────┘
                          9   10
```

JFP1 Pin Definition

PIN	SIGNAL	DESCRIPTION
1	HD_LED_P	Hard disk LED pull-up
2	FP PWR/SLP	MSG LED pull-up
3	HD_LED_N	Hard disk active LED
4	FP PWR/SLP	MSG LED pull-up
5	RST_SW_N	Reset Switch low reference pull-down to GND
6	PWR_SW_P	Power Switch high reference pull-up
7	RST_SW_P	Reset Switch high reference pull-up
8	PWR_SW_N	Power Switch low reference pull-down to GND
9	RSVD_DNU	Reserved. Do not use.

Card Reader Connector: J5

The mainboard provides a connector to connect the Card Reader (For Deluxe model) on the Front Panel.

Hi Fi Power Connector: CN3
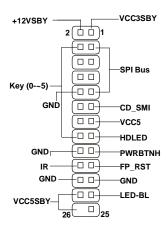
The mainboard provides a connector to connect the Hi Fi power.

```
      +12VSBY ──┐  ┌──┐
                   │ ▯ │
         GND ──────┤ ▯ │
                   │ ▯ │
        5VSB ──────┤ ▯ │
                   └──┘
```

Color LED Connector: CN4

The connector is used to connect the color LED on the front panel.

CN 4

Modem Module Connector: J6 (Optional)

The mainboard provides the connector to connect the modem module.
The modem module is directly inserted into the connector without an extra cable.

Radio Antenna Connector: J2

The connector allows you to connect the radio antenna.

2.8 Jumpers

There is a CMOS RAM on board that has a power supply from external battery to keep the data of system configuration. With the CMOS RAM, the system can automatically boot OS every time it is turned on. That battery has long life time for at least 2 years. If you want to clear the system configuration, use the JBAT1 (Clear CMOS Jumper) to clear data. Follow the instructions below to clear the data:

Clear CMOS Jumper: JBAT1

Keep Data   **Clear Data**

> *You can clear CMOS by shorting 2-3 pin while the system is off. Then return to 1-2 pin position. Avoid clearing the CMOS while the system is on; it will damage the mainboard.*
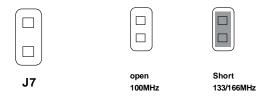
FSB Mode Jumper: J8

This jumper allows you to set the CPU FSB mode.

J8

**User mode
(default)
133 MHz**

**Safe mode
100 MHz**

CPU FSB Frequency Jumper: J7

This jumper is used to specify the CPU FSB (Front Side Bus) frequency. Leave the jumper short connected if a 133/166MHz FSB CPU is installed. If the CPU supports 100MHz FSB, leave the jumper open. To use a 200MHz FSB CPU, set the jumper short and enter the BIOS Setup Utility to adjust the CPU FSB Clock Frequency.

J7

**open
100MHz**

**Short
133/166MHz**

2.9 Slots

PCI Slot

      The PCI slot allows you to insert PCI card or TV Tuner card. The TV Tuner card is included in the MEGA 180.

      When adding or removing expansion cards, make sure that you unplug the power supply first. Meanwhile, read the documentation for the expansion card to make any necessary hardware or software settings

NOTE: You can install the OPTIONAL MS8606 card into the PCI slot to enjoy watching TV.

PCI Slot 1

AGP (Accelerated Graphics Port) Slot

      The AGP slot allows you to insert the AGP graphics card. AGP is an interface specification designed for the throughput demands of 3D graphics. It introduces a 66MHz, 32-bit channel for the graphics controller to directly access main memory and provides three levels of throughputs: 1x (266Mbps), 2x (533Mbps), 4x (1.07Gbps) and 8x.

AGP Slot

Mini PCI Slot

      The motherboard provides a mini PCI slot for connecting a mini PCI interface card.

Mini PCI

3

Using Audio Function

Introduction

The MEGA 180 is featured with audio function. There are two ways to use audio function: **in PC mode**, **in Hi-Fi mode**. As the MEGA 180 is shipped out in barebone, you must install the necessary components (such as HDD, CPU, RAM...) before using audio function in PC mode. However, there is no limit to use audio function in Hi-Fi mode, although the system is not set up completely.

You can use **control panel** or **remote controller** to select the audio function in Hi-Fi mode. See 3.1 and 3.2 for information on control panel and remote controller. On the other hand, to listen to the radio in PC mode, the "**Mega Radio**" software has been included in package. See Appendix for information on "Mega Radio".

In this chapter, we will tell you how to use audio function in Hi-Fi and PC mode. The color LED pictures are used to provide the information step by step.

3.1 Control Panel
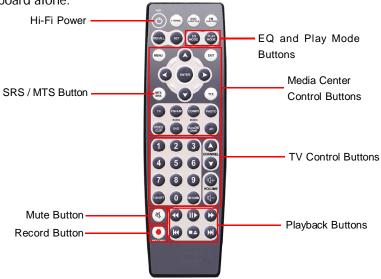
Deluxe model

HiFi	HiFi Power	Start the audio function.
MODE	Mode	Choose the audio mode (CD/MP3, FM, AM)
⏏ / ■	Eject/Stop	Eject the CD/MP3 or stop the play. In Hi-Fi mode, you can press this button to recall memory sub-mode.
▶▶❙	Forward	Forward the channel search in FM/AM mode or forward the music selection in MP3 mode.
▶ ❙❙	Play/Pause	Play or pause the play in CD/MP3, AM, FM modes. In Hi-Fi mode, you can press this button to store the memory station.
❙◀◀	Backward	Backward the channel search in FM/AM mode or backward the music selection in CD/MP3 mode.
◯	Shuttle	a. Adjust volume b. Set EQ/Play mode c. Set SRS and timer

Chapter 3

3.2 remote Controller

The slim and subtle remote controller embeds more than 30 buttons for your quick access. In Hi-Fi mode, you can control the play and EQ mode wih one touch. Even in Media Center (PC mode), you can still fully control the miltimedia applications with the remote controller. Just left your mouse and keyboard alone.

Hi-Fi Power

EQ and Play Mode Buttons

Media Center Control Buttons

SRS / MTS Button

TV Control Buttons

Mute Button

Record Button

Playback Buttons

Hi-Fi Power	Press this button to activate the Hi-Fi stereo
SRS / MTS Button	Press this button to ON/OFF the SRS / MTS
Mute Button	Press this button to mute or resume the volume
Record Button	In PC mode, press this button to instant record the broadcast, TV program and music.
EQ and Play Mode Buttons	You can set the EQ (Normal, POP, Classic, Jazz) and Play (Normal, Random, Repeat) mode as you want.
Media Center Control Buttons	You can control the Media Center with these buttons
TV Control Buttons	Use these buttons to control TV as you do in the living room
Playback Buttons	These buttons allow you to eject/stop, forward, play/ pause, backward and skip when playing CD, recorded music or MP3.

3.3 AC Power ON

- Plug in the power cord

After plugging in the power cord. You will see the panel (Color LED) items FLASH 2 times.

- Set Timer

Then you can adjust time by shuttle. You will see timer 00:00 flash.

Turn the shuttle clockwise to adjust minute.

Turn the shuttle counterclockwise to adjust hour. After adjusting the minute and hour, press the shuttle to set the timer. The second will be reset to zero while setting the timer.

3.4 playing CD/MP3 in Hi-fi mode

- Select CD/MP3

Press HiFi button to start the audio function. Press MODE on the Control Panel to select CD/MP3 mode or press CD/MP3 on the remote controller to play CD/MP3.

If there is no CD in the tray or CD is broken, the Color LED shows "NO disc". Press the Eject/Stop button to open the disc tray and put CD/MP3 in.

If the disc in the tray is CD, the Color LED shows CD. If the disc in the tray is MP3, the Color LED shows MP3.

- Play music

Press the "Play" button to play the music. The icon will run a circle.

The number "03" on the left means the third song. The number "03" on the right means minute. The number "14" means second.

- Pause Music

Press "Play/Pause" button to pause the music.

- Play Next Song

Press the "Forward" button to play the next song.

- Replay the song

Press "Backward" button once to re-play the song.

- Replay previous song

Press the "Backward" button twice (in 2 seconds) to play the previous song (After 2 seconds, it replay the song).

- Eject/Stop

Press the "Eject/Stop" button once to stop the music or to eject .

Chapter 3

- Adjusting volume

Turn the shuttle clockwise to turn the volume up and counterclockwise to turn the volume down.

- Set Play Sub-Mode

Press the shuttle once to set the Play Sub-Mode (NORMAL, RANDOM and REPEAT DISC)

: Allows you to play the CD in normal selection.

: Allows you to play the CD at random.

Turn the shuttle to choose Play Sub-Mode. The item you choose will flash and the others are on. Wait for 5 seconds to set the Play Sub-Mode and go back to volume mode. You can also press the shuttle to set it and change to the EQ Sub-Mode at the same time.

: Allows you to repeat the current title.
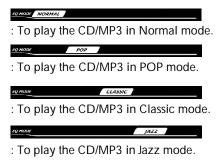
 : Allows you to repeat the whole disc.

NOTE: You can also press the "PLAY MODE" button on the remote controller to set the Sub-Mode.

Press the shuttle twice (if you want to skip the Play Sub-Mode) to set the EQ Sub-Mode (NORMAL, POP, CLASSIC, JAZZ).

3-8

- Set EQ Sub-Mode

Turn the shuttle to choose EQ Sub-Mode. The item you choose will flash and the others are on. Wait for 5 seconds to set the EQ Sub-Mode and go back to volume mode. You can also press the shuttle to set it and change to the Timer Sub-Mode at the same time.

EQ MODE　*NORMAL*

: To play the CD/MP3 in Normal mode.

EQ MODE　*POP*

: To play the CD/MP3 in POP mode.

EQ MODE　*CLASSIC*

: To play the CD/MP3 in Classic mode.

EQ MODE　*JAZZ*

: To play the CD/MP3 in Jazz mode.

NOTE: You can also press the "EQ MODE" button on the remote controller to set it.

Press the shuttle thrice (if you want to skip Play and EQ sub-modes) to set the Timer sub-mode. The operation of setting is the same as AC power on. After that, it changes to the Volume sub-mode. The LCM shows 🕐 .

- Turn on SRS

Press the shuttle four times to turn on SRS. You can also press the MTS button on the remote controller to turn on SRS.

3.5 playing FM/AM in hi-fi mode

- Select AM/FM

Press the "MODE" button on the Control Panel to set AM/FM mode or press AM/FM button on the Remote Controller to switch to AM or FM station.

- Next Available Station

Press the "Forward" button to jump to the next available station.

- Previous Available Station

Press the "Backward" button to jump to the previous available station.

- Memory Station

Press the "mem.set (Play/Pause)" button to store the memory station and turn the shuttle to choose the spot you want to save. Press the shuttle to set it

- Adjusting Volume

Turn the shuttle to adjust the volume (3 steps).

- Recall Memory Station

Press the "Eject/Stop" once to recall the memory sub-mode and turn the shuttle to choose the number of spot (1-6) to play.

- Set EQ Sub-Mode

Press the shuttle once into the "EQ" sub-mode. Turn the shuttle to choose the sub-mode. The operation is the same as in CD/MP3 mode.

- Set Timer

Press the shuttle twice to set the Timer sub-mode (operation is the same as in AC power on). After you set the hour and minute, it changes to the volume sub-mode. The Color LED shows **Set Timer**.

NOTE: Press the shuttle thrice or press the MTS button on the remote controller to turn the SRS on.

Chapter 3

3.6 Using audio function in PC mode

Radio Mode

You can use Remote Controller or Front Panel to control the audio function. Basically, **the operation is very similar to that in Hi-Fi mode**. **The difference is in memory station setting.**

Remote Controller Function

1. Press "Hi-Fi" button to turn on/off radio.
2. Press "FM/AM" button to launch MSI Mega Radio to listen to radio.
3. Press "Mute" button to mute the volume.
4. Press "Vol up/down" button to adjust volume.
5. Press "Forward/Backward" button to get an available station.

<Setting Memory Station>

a. Get an available station.

b. Press "mem.set".

c. Use "Forward/Backward" button to choose the station number you want to store.

d. Press "mem.set" again.

<Calling Memory Station>

a. Press "Memory".

b. Use "Forward/Backward" button to choose the memory station.

<Reset Memory Station>

a. Use "Forward/Backward" button to choose the NEW station number.

b. Press "mem.set" to reset the station.

Front Panel Function

1. Press "Hi-Fi" button to turn on/off radio.
2. Press "Mode" button to launch MSI Radio to listen to radio.
3. Turn "Shuttle" to adjust the volume.
4. Press "Forward/Backward" button to get an available station.

> **MSI**
>
> *Memory Station*
> *The shuttle is not allowed to set the memory station as in Hi-Fi mode. Use the "mem.set" button on the remote controller to set the memory station.*

CD/MP3 Mode

To listen to the play of CD/MP3 in PC mode, you can use the Windows Media Player or Media Center DeluxeIII. As in Hi-Fi Mode, there are two ways (Remote Controller/Front Panel) to use the CD/MP3 audio function.

Before playing MP3 in PC mode, you need to download the MP3 file into system, and then add the file to the playlist. The Mega 180 is not allowed to play music automatically after inserting MP3

Chapter 3

Remote Controller Function

1. Press "Hi-Fi" button to turn on/off CD/MP3.
2. Press "FM/AM/CDMP3" button to select the mode you want.
3. Press "Mute" button to mute the volume.
4. Press "Vol up/down" button to adjust volume.
5. Press "Forward/Backward" button to get the next/last song.
6. Press "Play/Pause" button to play/pause the song.
7. Press "Eject" button to eject/retrieve the tray.

Memory Station
The "Eject" button is not allowed to recall the memory station as in Hi-Fi mode. It can only be used to eject or retrieve the tray.

Front Panel Function

1. Press "Hi-Fi" button to turn on/off CD/MP3.
2. Press "FM/AM/CDMP3" button to select the mode you want.
3. Turn "Shuttle" to adjust the volume.
4. Press "Forward/Backward" button to get an available station.
6. Press "Play/Pause" button to play/pause the song.
7. Press "Eject" button to eject/retrieve the tray.

Memory Station
The "Eject" button is not allowed to recall the memory station as in Hi-Fi mode. It can only be used to eject or retrieve the tray.

4

Setting BIOS Function

Chapter 4
4.1 Entering Setup

Power on the computer and the system will start POST (Power On Self Test) process. When the message below appears on the screen, press <DEL> key to enter Setup.

```
Press DEL to enter SETUP
```

If the message disappears before you respond and you still wish to enter Setup, restart the system by turning it OFF and On or pressing the RESET button. You may also restart the system by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys.

Control Keys

<↑>	Move to the previous item
<↓>	Move to the next item
<←>	Move to the item in the left hand
<→>	Move to the item in the right hand
<Enter>	Select the item
<Esc>	Jumps to the Exit menu or returns to the main menu from a submenu
<+/PU>	Increase the numeric value or make changes
<-/PD>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<F6>	Load the default CMOS value from Fail-Safe default table, only for Option Page Setup Menu
<F7>	Load Optimized defaults
<F10>	Save all the CMOS changes and exit

Getting Help

After entering the Setup menu, the first menu you will see is the Main Menu.

Main Menu

The main menu lists the setup functions you can make changes to. You can use the control keys ($\uparrow\downarrow$) to select the item. The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Sub-Menu

If you find a right pointer symbol (as shown in the right view) appears to the left of certain fields that means a sub-menu containing additional options can be launched from this field. You can use control keys ($\uparrow\downarrow$) to highlight the field and press <Enter> to call up the sub-menu. Then you can use the control keys to enter values and move from field to field within a sub-menu. If you want to return to the main menu, just press <Esc >.

```
▶ IDE Primary Master

▶ IDE Primary Slave

▶ IDE Secondary Master

▶ IDE Secondary Slave
```
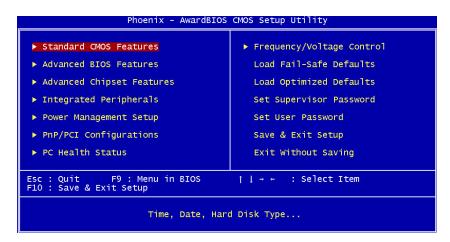
General Help <F1>

The BIOS setup program provides a General Help screen. You can call up this screen from any menu by simply pressing <F1>. The Help screen lists the appropriate keys to use and the possible selections for the highlighted item. Press <Esc> to exit the Help screen.

Chapter 4

4.2 The main menu

Once you enter Phoenix-Award® BIOS CMOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. The Main Menu allows you to select from twelve setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

```
          Phoenix - AwardBIOS CMOS Setup Utility

 ▶ Standard CMOS Features        ▶ Frequency/Voltage Control
 ▶ Advanced BIOS Features          Load Fail-Safe Defaults
 ▶ Advanced Chipset Features       Load Optimized Defaults
 ▶ Integrated Peripherals          Set Supervisor Password
 ▶ Power Management Setup          Set User Password
 ▶ PnP/PCI Configurations          Save & Exit Setup
 ▶ PC Health Status                Exit Without Saving

 Esc : Quit      F9 : Menu in BIOS     ↑ ↓ → ←   : Select Item
 F10 : Save & Exit Setup

                  Time, Date, Hard Disk Type...
```

Standard CMOS Features
Use this menu for basic system configurations, such as time, date etc.

Advanced BIOS Features
Use this menu to setup the items of AWARD® special enhanced features.

Advanced Chipset Features
Use this menu to change the values in the chipset registers and optimize your system's performance.

Integrated Peripherals
Use this menu to specify your settings for integrated peripherals.

Power Management Setup

Use this menu to specify your settings for power management.

PnP/PCI Configurations

This entry appears if your system supports PnP/PCI.

PC Health Status

This entry shows your PC health status.

Frequency/Voltage Control

Use this menu to specify your settings for frequency/voltage control.

Load Fail/Safe Defaults

Use this menu to load factory default settings into the BIOS for stable system performance operations.

Load Optimized Defaults

Use this menu to load the BIOS values for the best system performance, but the system stability may be affected.

Set Supervisor Password

Use this menu to set Supervisor Password.

Set User Password

Use this menu to set User Password.

Save & Exit Setup

Save changes to CMOS and exit setup.

Exit Without Saving

Abandon all changes and exit setup.

4.3 standard cmos features

The items in Standard CMOS Features Menu are divided into 14 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

```
                 Phoenix - AwardBIOS CMOS Setup Utility
                         Standard CMOS Features
   ┌────────────────────────────────────────────────┬──────────────────────┐
   │ Date (mm:dd:yy)          Mon, Aug  4 2003       │      Item Help       │
   │ Time (hh:mm:ss)          10 : 35 : 29           ├──────────────────────┤
   │                                                 │ Menu Level    ▶      │
   │ ▶ IDE Primary Master                            │                      │
   │ ▶ IDE Primary Slave                             │ Change the day, month│
   │ ▶ IDE Secondary Master                          │ year and century     │
   │ ▶ IDE Secondary Slave                           │                      │
   │                                                 │                      │
   │   Drive A                [1.44M, 3.5 in.]       │                      │
   │   Drive B                [None]                 │                      │
   │                                                 │                      │
   │   Video                  [EGA/VGA]              │                      │
   │   Halt On                [All , But Keyboard]   │                      │
   │                                                 │                      │
   │   CPU Type                                      │                      │
   │   BIOS version        W6796MS V3.0B3 080103 13:20:17                   │
   │   System Memory          1024K                  │                      │
   │   Total Memory           1024K                  │                      │
   ├────────────────────────────────────────────────┴──────────────────────┤
   │ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
   │   F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized Defaults     │
   └────────────────────────────────────────────────────────────────────────┘
```

Date

This allows you to set the system to the date that you want (usually the current date). The format is <day><month> <date> <year>.

Time

This allows you to set the system time that you want (usually the current time). The time format is <hour> <minute> <second>.

IDE Primary/Secondary Master/Slave

Press PgUp/<+> or PgDn/<-> to select *Manual, None* or *Auto* type. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category. If your hard disk drive type is not matched or listed, you can use *Manual* to define your own drive type manually.

If you select *Manual*, related information is asked to be entered to the following items. Enter the information directly from the keyboard. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

Access Mode	The settings are CHS, LBA, Large, Auto.
Capacity	The formatted size of the storage device.
Cylinder	Number of cylinders.
Head	Number of heads.
Precomp	Write precompensation.
Landing Zone	Cylinder location of the landing zone.
Sector	Number of sectors.

Drive A/B
This item allows you to set the type of floppy drives installed.

Video
The setting controls the type of video adapter used for the primary monitor of the system. Available options are *EGA/VGA*.

Halt On
The setting determines whether the system will stop if an error is detected at boot. Available options are:

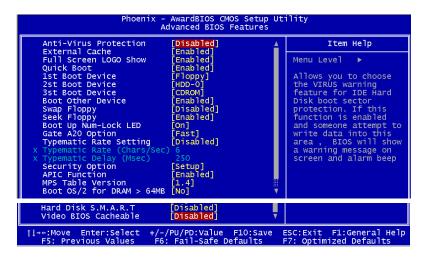|	
All Errors	The system stops when any error is detected.
No Errors	The system doesn't stop for any detected error.
All, But Keyboard	The system doesn't stop for a keyboard error.
All, But Diskette	The system doesn't stop for a disk error.
All, But Disk/Key	The system doesn't stop for either a disk or a key

4.4 advanced bios features

```
              Phoenix - AwardBIOS CMOS Setup Utility
                      Advanced BIOS Features
   ┌──────────────────────────────────────────┬──────────────────────┐
   │ Anti-Virus Protection      [Disabled]   ▲│      Item Help        │
   │ External Cache             [Enabled]     │                       │
   │ Full Screen LOGO Show      [Enabled]     │ Menu Level    ▶       │
   │ Quick Boot                 [Enabled]     │                       │
   │ 1st Boot Device            [Floppy]      │ Allows you to choose  │
   │ 2st Boot Device            [HDD-0]       │ the VIRUS warning     │
   │ 3st Boot Device            [CDROM]       │ feature for IDE Hard  │
   │ Boot Other Device          [Enabled]     │ Disk boot sector      │
   │ Swap Floppy                [Disabled]    │ protection. If this   │
   │ Seek Floppy                [Enabled]     │ function is enabled   │
   │ Boot Up Num-Lock LED       [On]          │ and someone attempt to│
   │ Gate A20 Option            [Fast]        │ write data into this  │
   │ Typematic Rate Setting     [Disabled]    │ area ,  BIOS will show│
   │ x Typematic Rate (Chars/Sec) 6           │ a warning message on  │
   │ x Typematic Delay (Msec)     250         │ screen and alarm beep │
   │ Security Option            [Setup]       │                       │
   │ APIC Function              [Enabled]     │                       │
   │ MPS Table Version          [1.4]       ▒│                       │
   │ Boot OS/2 for DRAM > 64MB  [No]         ▼│                       │
   ├──────────────────────────────────────────┼──────────────────────┤
   │ Hard Disk S.M.A.R.T        [Disabled]    │                       │
   │ Video BIOS Cacheable       [Disabled]   ▼│                       │
   ├──────────────────────────────────────────┴──────────────────────┤
   │ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help│
   │    F5: Previous Values    F6: Fail-Safe Defaults  F7: Optimized Defaults     │
   └──────────────────────────────────────────────────────────────────┘
```

Anti-Virus Protection

The item is to set the Virus Warning feature for IDE Hard Disk boot sector protection. If the function is enabled and any attempt to write data into this area is made, BIOS will display a warning message on screen and beep. Settings: *Disabled* and *Enabled.*

External Cache

The item allows you to turn on or off CPU's external (L2)cache. Settings: *Enabled* and *Disabled.*

Full Screen Logo Show

This item enables you to show the company logo on the bootup screen. Settings are:

> *Enabled*   Shows a still image (logo) on the full screen at boot.
> *Disabled*   Shows the POST messages at boot.

Quick Boot

Setting the item to *Enabled* allows the system to boot within 5 seconds since it

will skip some check items. Available options: *Enabled*, *Disabled*.

1st/2nd/3rd Boot Device
The items allow you to set the sequence of boot devices where BIOS attempts to load the disk operating system.

Boot Other Device
Setting the option to *Enabled* allows the system to try to boot from other device if the system fails to boot from the 1st/2nd/3rd boot device.

Swap Floppy
Setting to *Enabled* will swap floppy drives A: and B:.

Seek Floppy
Setting to *Enabled* will make BIOS seek floppy drive A: before booting the system. Settings: *Disabled*, *Enabled*.

Boot Up Num-Lock LED
This setting is to set the Num Lock status when the system is powered on. Setting to *On* will turn on the Num Lock key when the system is powered on. Setting to *Off* will allow users to use the arrow keys on the numeric keypad. Setting options: *On*, *Off*.

Gate A20 Option
This item is to set the Gate A20 status. A20 refers to the first 64KB of extended memory. When the default value *Fast* is selected, the Gate A20 is controlled by Port92 or chipset specific method resulting in faster system performance. When *Normal* is selected, A20 is controlled by a keyboard controller or chipset hardware.

Typematic Rate Setting
This item is used to enable or disable the typematic rate setting including Typematic Rate & Typematic Delay.

Typematic Rate (Chars/Sec)

After *Typematic Rate Setting* is enabled, this item allows you to set the rate (characters/second) at which the keys are accelerated. Settings: *6*, *8*, *10*, *12*, *15*, *20*, *24* and *30*.

Typematic Delay (Msec)

This item allows you to select the delay between when the key was first pressed and when the acceleration begins. Settings: *250*, *500*, *750* and *1000*.

Security Option

This specifies the type of BIOS password protection that is implemented. Settings are described below:

Option	Description
Setup	The password prompt appears only when end users try to run Setup.
System	A password prompt appears every time when the computer is powered on or when end users try to run Setup.

APIC Function

This field is used to enable or disable the APIC (Advanced Programmable Interrupt Controller). Due to compliance with PC2001 design guide, the system is able to run in APIC mode. Enabling APIC mode will expand available IRQ resources for the system. Settings: *Enabled* and *Disabled*.

MPS Table Version

This field allows you to select which MPS (Multi-Processor Specification) version to be used for the operating system. You need to select the MPS version supported by your operating system. To find out which version to use, consult the vendor of your operating system. Settings: *1.4*, *1.1*.

Boot OS/2 for DRAM > 64MB

This allows you to run the OS/2® operating system with DRAM larger than 64MB. When you choose *No*, you cannot run the OS/2® operating system with DRAM larger than 64MB. But it is possible if you choose *Yes*.
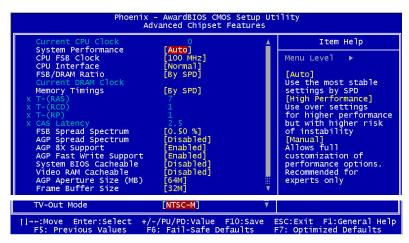
Hard Disk S.M.A.R.T.

This allows you to activate the S.M.A.R.T. (Self-Monitoring Analysis & Reporting Technology) capability for the hard disks. S.M.A.R.T is a utility that monitors your disk status to predict hard disk failure. This gives you an opportunity to move data from a hard disk that is going to fail to a safe place before the hard disk becomes offline. Settings: *Enabled* and *Disabled*.

Video BIOS Cacheable

Selecting *Enabled* allows caching of the video BIOS ROM at C0000h to C7FFFh, resulting in better video performance. However, if any program writes to this memory area, a system error may result. Setting options: *Disabled*, *Enabled*.

4.5 advanced chipset features

```
            Phoenix - AwardBIOS CMOS Setup Utility
                  Advanced Chipset Features
    ┌──────────────────────────────────────┬──────────────────────────┐
    │ Current CPU Clock         0         ▲│        Item Help         │
    │ System Performance      [Auto]       │                          │
    │ CPU FSB Clock           [100 MHz]    │  Menu Level    ▶         │
    │ CPU Interface           [Normal]     │                          │
    │ FSB/DRAM Ratio          [By SPD]     │  [Auto]                  │
    │ Current DRAM Clock                   │  Use the most stable     │
    │ Memory Timings          [By SPD]     │  settings by SPD         │
    │ x T-(RAS)                 7          │  [High Performance]      │
    │ x T-(RCD)                 1          │  Use over settings       │
    │ x T-(RP)                  1          │  for higher performance  │
    │ x CAS Latency             2.5        │  but with higher risk    │
    │ FSB Spread Spectrum     [0.50 %]     │  of instability          │
    │ AGP Spread Spectrum     [Disabled]   │  [Manual]                │
    │ AGP 8X Support          [Enabled]    │  Allows full             │
    │ AGP Fast Write Support  [Enabled]    │  customization of        │
    │ System BIOS Cacheable   [Disabled]   │  performance options.    │
    │ Video RAM Cacheable     [Disabled]   │  Recommended for         │
    │ AGP Aperture Size (MB)  [64M]        │  experts only            │
    │ Frame Buffer Size       [32M]       ▼│                          │
    ├──────────────────────────────────────┴──────────────────────────┤
    │ TV-Out Mode             [NTSC-M]    ▼                            │
    ├──────────────────────────────────────────────────────────────────┤
    │ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
    │   F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized Defaults    │
    └──────────────────────────────────────────────────────────────────┘
```

NOTE: Change these settings only if you are familiar with the chipset.

Current CPU Clock

It shows the current clock frequency of the CPU. (read only)

System Performance

This field allows users to control the status of system performance. Users may select [Auto] for the most stable settings by SPD. [High Performance] will increase the system performance but may have instability problems. [Manual] allows full customization of performance options, and is recommended for experts only. Settings: *Auto, High Performance, Manual*.

CPU FSB Clock

This setting allows you to select the CPU Front Side Bus clock frequency. Settings: *100~200MHz at 1 MHz increment.*

CPU Interface

This setting allows you to select the CPU/FSB parameters. Settings: *Normal, High Performance.* When [High Performance] is selected, the system will use

overclocked CPU/FSB parameters. Select [Normal] for normal mode CPU/FSB parameters.

FSB/DRAM Ratio
This setting controls the ratio of CPU FSB clock & DRAM Frequency to enable the CPU & DRAM to run at different frequency combinations. Please note that the setting options vary according to the CPU FSB clock preset. Options: *By SPD*, *2:1*, *5:3*, *3:2*, *4:3*, *5:4*, *6:5*, *1:1*, *5:6*, *4:5*, *3:4*, *2:3*, *3:5*, *1:2*, *Auto.*

Current DRAM Clock
It shows the clock frequency of the installed DRAMs. (read only)

Memory Timing
Selects whether DRAM timing is controlled by the SPD (Serial Presence Detect) EEPROM on the DRAM module. Setting to *By SPD* enables DRAM timings to be determined by BIOS based on the configurations on the SPD. Selecting *Manual* allows users to configure the DRAM timings manually. Options: *By SPD, Manual, High Performance*.

T-(RAS)
This setting controls the number of clock cycles for DRAM to be allowed to precharge from the active state. Settings: *1 through 15*.

T-(RCD)
When DRAM is refreshed, both rows and columns are addressed separately. This setup item allows you to determine the timing of the transition from RAS (row address strobe) to CAS (column address strobe). The less the clock cycles, the faster the DRAM performance. Setting options: *1 through 7*.

T-(RP)
This item controls the number of cycles for Row Address Strobe (RAS) to be

allowed to precharge. If insufficient time is allowed for the RAS to accumulate its charge before DRAM refresh, refresh may be incomplete and DRAM may fail to retain data. This item applies only when synchronous DRAM is installed in the system. Available settings: *1 through 7.*

CAS Latency
The field controls the CAS latency, which determines the timing delay before RAM starts a read command after receiving it. Setting options are: *2, 2.5,* and *3.* 2T increases system performance while 3T provides more stable system performance.

FSB Spread Spectrum
This item is used to enable or disable the FSB clock generator's Spread Specturm feature. When overclocking the FSB, always set it to *Disabled.*   Options: *Disabled, 0.50%, 1.00%.*

AGP Spread Spectrum
This item is used to enable or disable the AGP clock generator's Spread Specturm feature. When overclocking the AGP slot, always set it to *Disabled.*   Options: *Disabled, 0.50%, 1.00%.*

AGP 8x Support
This item is used to control the functionality of the AGP 3.0 8x interface.   Options: *Disabled, Enabled.* Select Enabled only when your card supports this function.

AGP Fast Write Support
The item enables or disables the AGP Fast Write feature. The Fast Write technology allows CPU to write directly into the graphics controller without passing anything through system memory and improves 8x speed accordingly. Select Enabled only when your AGP card supports the feature. Options: *Disabled, Enabled.*

System BIOS Cacheable

Selecting *Enabled* allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result. Setting options: *Enabled, Disabled.*

Video RAM Cacheable

Selecting *Enabled* allows caching of the video memory (RAM) at A0000h to AFFFFh, resulting in better video performance. However, if any program writes to this memory area, a memory access error may result. Setting options: *Disabled, Enabled.*

AGP Aperture Size (MB)

This setting controls just how much system RAM can be allocated to AGP for video purposes. The aperture is a portion of the PCI memory address range dedicated to graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation. The option allows the selection of an aperture size of *32MB, 64MB, 128MB, 256MB* and *512MB.*

Frame Buffer Size

Frame Buffer is the video memory that stores data for video display (frame). This field is used to determine the memory size for Frame Buffer. Larger frame buffer size increases video performance. Settings: *8M*, *16M*, *32MB, 64MB and 128MB*.

TV-Out Mode

This item is used to select the TV-out mode in accordance with your regional TV code. Settings: *NTSC-J, NTSC-M, PAL-M, PAL-BDGHI, PAL-N, PAL-NC.*

4.6 integrated peripherals

```
              Phoenix - AwardBIOS CMOS Setup Utility
                       Integrated Peripherals
 ┌──────────────────────────────────────┬─────────────────────────┐
 │ ▶ IDE Function Setup      [Press Enter]│      Item Help          │
 │ ▶ Onboard Device          [Press Enter]├─────────────────────────┤
 │ ▶ Onboard SuperIO Device  [Press Enter]│  Menu Level    ▶        │
 │   Init Display First      [PCI Slot]   │                         │
 │                                        │                         │
 │                                        │                         │
 │                                        │                         │
 │                                        │                         │
 │                                        │                         │
 ├──────────────────────────────────────┴─────────────────────────┤
 │ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
 │    F5: Previous Values     F6: Fail-Safe Defaults    F7: Optimized Defaults   │
 └─────────────────────────────────────────────────────────────────┘
```

■ **IDE Function Setup**

Press <Enter> to enter the sub-menu and the following screen appears:

```
      OnChip IDE Channel0        [Enabled]
      Primary Master   PIO       [Auto]
      Primary Slave    PIO       [Auto]
      Primary Master   UDMA      [Auto]
      Primary Slave    UDMA      [Auto]
      OnChip IDE Channel1        [Enabled]
      Secondary Master PIO       [Auto]
      Secondary Slave  PIO       [Auto]
      Secondary Master UDMA      [Auto]
      Secondary Slave  UDMA      [Auto]
      IDE Prefetch Mode          [Enabled]
      IDE DMA transfer access    [Enabled]
      IDE HDD Block Mode         [Enabled]
```

OnChip IDE Channel 10

The integrated peripheral controller contains an IDE interface with support for
the IDE channel. Choose [Enabled] to activate the channel. Settings: *Enabled*,
Disabled.

Primary/Secondary Master/Slave PIO

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device. The settings are: *Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4*.

Primary/Secondary Master/Slave UDMA

Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/33, Ultra DMA/66 and Ultra DMA/100 select Auto to enable BIOS support. The settings are: *Auto, Disabled*.

OnChip IDE Channel 1

The chipset contains a PCI IDE interface with support for channel1. Select Enabled to activate the IDE interface. Select Disabled to deactivate the interface, if you install a primary and/or secondary add-in IDE interface.

IDE Prefetch Mode

The onboard IDE drive interfaces support IDE prefetching, for faster drive accesses. When you install a primary and/or secondary add-in IDE interface, set this option to *Disabled* if the interface does not support prefetching.

IDE DMA Transfer Access

This item is used to enable or disable the DMA transfer function of the IDE Hard Drive. The settings are: *Enabled, Disabled*.

IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do),

select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support. Settings: *Enabled, Disabled.*

■ **Onboard Device**

Press <Enter> to enter the sub-menu and the following screen appears:

```
    AC97 Audio            [Auto]
    MC97 Modem            [Auto]
    OnChip USB            [V1.1+V2.0]
    USB Keyboard Support  [Disabled]
    OnChip 1394           [Auto]
    OnChip Lan(nVIDIA)    [Auto]
    MAC Address (nVIDIA)  [Disabled]
  x MAC Address Input (nVIDIA) Press Enter
```

AC97 Audio

Auto allows the mainboard to detect whether an audio device is used. If an audio device is detected, the onboard AC'97 (Audio Codec'97) controller will be enabled; if not, it is disabled. Disable the controller if you want to use other controller cards to connect an audio device. Settings: *Auto, Disabled.*

MC97 Modem

Auto allows the mainboard to detect whether a modem is used. If a modem is detected, the onboard MC'97 modem controller will be enabled; if not, it is disabled. Disable the controller if you want to use other controller cards to connect a modem. Settings: *Auto, Disabled.*

OnChip USB

This setting allows you to enable/disable the onboard USB controller. Selecting [V1.1+V2.0] enables the system to support both USB 1.1 and 2.0 spec. Setting options: *Disabled, V1.1, V1.1+V2.0.*

USB Keyboard Support

Select *Enabled* if you need to use a USB-interfaced keyboard in the operating system. Setting options: *Enabled, Disabled.*

OnChip 1394

This item allows you to enable/disable the onboard IEEE1394 controller. Setting options: *Auto* and *Disabled*.

OnChip Lan (nVIDIA)

Setting to [Auto] allows the BIOS to auto-detect the nVIDIA LAN controller and enable it. Setting options: *Auto* and *Disabled*.

MAC Address (nVIDIA)

Setting to [Enabled] allows users to manually update the MAC address under MAC (NV) Address Input. Setting options: *Enabled* and *Disabled*.

MAC Address Input (nVIDIA)

Users can key in the MAC (NV) address in this field.

■ **Onboard Super IO Device**

Press <Enter> to enter the sub-menu and the following screen appears:

```
Onboard FDC Controller      [Enabled]
Onboard Parallel Port       [378/IRQ7]
Parallel Port Mode          [Standard]
ECP Mode Use DMA            [3]
```

Onboard FDC Controller

Select Enabled if your system has a floppy disk controller (FDD) installed on the system board and you wish to use it. If you install add-on FDC or the system has no floppy drive, select Disabled in this field. The settings are: *Enabled* and *Disabled*.

Onboard Parallel Port

There is a built-in parallel port on the onboard Super I/O chipset that provides Standard, ECP, and EPP features. It has the following options:

> *Disabled*
> **3BC/IRQ 7**   Line Printer port 0
> *278/IRQ5*   Line Printer port 2
> *378/IRQ7*   Line Printer port 1

Parallel Port Mode

SPP : Standard Parallel Port

EPP : Enhanced Parallel Port

ECP : Extended Capability Port

ECP + EPP: Extended Capability Port + Enhanced Parallel Port

> **SPP/EPP/ECP/ECP+EPP**
>
> To operate the onboard parallel port as Standard Parallel Port only, choose "SPP." To operate the onboard parallel port in the EPP mode simultaneously, choose "EPP." By choosing "ECP", the onboard parallel port will operate in ECP mode only. Choosing "ECP + EPP" will allow the onboard parallel port to support both the ECP and EPP modes simultaneously.

ECP Mode Use DMA

The ECP mode has to use the DMA channel, so choose the onboard parallel port with the ECP feature. After selecting it, the following message will appear: "ECP Mode Use DMA." At this time, the user can choose between DMA channel *3* or *1.*

4.7 Power management setup

```
            Phoenix - AwardBIOS CMOS Setup Utility
                   Power Management Setup
┌─────────────────────────────────────────┬────────────────────┐
│  Sleep State          [S1(POS)]          │     Item Help      │
│  Power Management      [User Define]      │                    │
│  Video Off Method      [DPMS Support]     │   Menu Level   ▶   │
│  HDD Power Down        [Disabled]         │                    │
│  HDD Down In Suspend   [Disabled]         │                    │
│  Power Button Function [Power Off]        │                    │
│ ▶ IRQ/Event Activity Detect [Press Enter] │                    │
│                                           │                    │
│                                           │                    │
│                                           │                    │
├─────────────────────────────────────────┴────────────────────┤
│ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│    F5: Previous Values    F6: Fail-Safe Defaults   F7: Optimized Defaults     │
└────────────────────────────────────────────────────────────────┘
```

Sleep State

This item specifies the power saving modes for ACPI function. If your operating system supports ACPI, such as Windows 98SE, Windows ME and Windows 2000, you can choose to enter the Standby mode in S1(POS) or S3(STR) fashion through the setting of this field. Options are:

Auto

S1/POS   The S1 sleep mode is a low power state. In this state, no system context is lost (CPU or chipset) and hardware maintains all system context.

S3/STR   The S3 sleep mode is a lower power state where the in formation of system configuration and open applications/ files is saved to main memory that remains powered while most other hardware components turn off to save energy. The information stored in memory will be used to restore the system when a "wake up" event occurs.

Power Management

This item is used to select the degree (or type) of power saving and is related to these modes: *Suspend Mode* and *HDD Power Down.* There are three options for power management:

     Min Saving   Minimum Power Management. Suspend Mode=1 Hour

     Max Saving Maximum Power Management. Suspend Mode=1 Min

     User Define Allows end users to configure each mode separately.

Video Off Method

This determines the manner in which the monitor is blanked.

     V/H SYNC+Blank This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

     Blank Screen   This option only writes blanks to the video buffer.

     DPMS Support   Initial display power management signaling

HDD Power Down

If HDD activity is not detected for the length of time specified in this field, the hard disk drive will be powered down while all other devices remain active. Settings are *Disabled* and *1 through 15 Min*.

HDD Down In Suspend

This item determines whether the hard disk drive will be turned off during suspend mode. Settings: *Disabled* and *Enabled*.

Power Button Function

This feature sets the function of the power button. Settings are:

     Power Off   The power button functions as normal power off button.

     Suspend   When you press the power button, the computer enters the suspend/sleep mode, but if the button is pressed for more than four seconds, the computer is turned off.

■ **IRQ/Event Activity Detect**

Press <Enter> and the following sub-menu appears.

```
IRQs Activity          [Primary]
IRQ3                   [Enabled]
IRQ4                   [Enabled]
IRQ5                   [Enabled]
IRQ6                   [Enabled]
IRQ7                   [Enabled]
IRQ8                   [Disabled]
IRQ9                   [Enabled]
IRQ10                  [Enabled]
IRQ11                  [Enabled]
IRQ12                  [Enabled]
IRQ13                  [Enabled]
IRQ14                  [Enabled]
IRQ15                  [Disabled]
```

IRQ [3-7, 9-15], IRQs Activity & IRQ8

This setting enables/disables the monitoring of the specified IRQ line. If set to *Enabled*, the activity of the specified IRQ line will prevent the system from entering power saving modes or awaken it from power saving modes. Setting options: *Disabled, Enabled.*

4.8 pnp/pci configurations

This section describes configuring the PCI bus system and PnP (Plug & Play) feature. PCI, or **P**eripheral **C**omponent **I**nterconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

```
                Phoenix - AwardBIOS CMOS Setup Utility
                        PnP/PCI Configurations
┌──────────────────────────────────────────┬────────────────────────┐
│  PNP OS Installed          [Yes]          │       Item Help        │
│                                           ├────────────────────────┤
│  Resources Controlled By   [Auto(ESCD)]   │  Menu Level    ▶       │
│ x IRQ Resources             Press Enter   │                        │
│                                           │  Select Yes if you are │
│  PCI/VGA Palette Snoop     [Disabled]     │  using a Plug and Play │
│  PCI Slot1/4  IRQ Priority [Auto]         │  capable operating     │
│  PCI Slot2/5  IRQ Priority [Auto]         │  system Select No if   │
│  PCI Slot3    IRQ Priority [Auto]         │  you need the BIOS to  │
│                                           │  configure non-boot    │
│                                           │  devices               │
│                                           │                        │
│                                           │                        │
│                                           │                        │
│                                           │                        │
├──────────────────────────────────────────┴────────────────────────┤
│ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│    F5: Previous Values    F6: Fail-Safe Defaults   F7: Optimized Defaults     │
└────────────────────────────────────────────────────────────────────┘
```

PNP OS Installed

When set to [Yes], BIOS will only initialize the PnP cards used for booting (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Windows 98. When set to [No], BIOS will initialize all the PnP cards. So, select [Yes] if your operating system is Plug & Play aware.

Resources Controlled By

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows® 95/98. If you set this field to "manual" choose specific resources by going into each of the sub menu that follows this field (a sub menu is preceded by

a "➢"). The settings are: *Auto (ESCD), Manual.*

IRQ Resources
The items are adjustable only when *Resources Controlled By* is set to *Manual.*
Press <Enter> and you will enter the sub-menu of the items. IRQ Resources list
IRQ 3/4/5/7/9/10/11/12/14/15 for users to set each IRQ a type depending on the
type of device using the IRQ. Settings are:

PCI Device	For Plug & Play compatible devices designed for PCI bus architecture.
Reserved	The IRQ will be reserved for further request.

PCI/VGA Palette Snoop
When set to *Enabled*, multiple VGA devices operating on different buses can
handle data from the CPU on each set of palette registers on every video device.
Bit 5 of the command register in the PCI device configuration space is the VGA
Palette Snoop bit (0 is disabled).
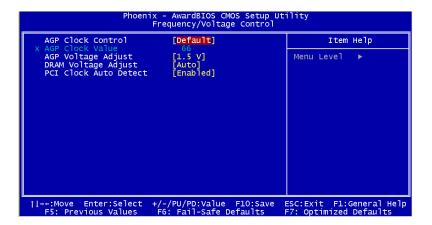
PCI Slot 1/4, 2/5, 3 IRQ Priority
These items specify the IRQ line for each PCI slot. Settings: *3, 4, 5, 7, 9, 10, 11,
12, 14, 15* and *Auto.* Selecting Auto allows BIOS to automatically determine
the IRQ line for each PCI slot.

4.9 PC health status

```
          Phoenix - AwardBIOS CMOS Setup Utility
                      PC Health Status
  ┌─────────────────────────────────────┬──────────────────────┐
  │ CPU Temperature                      │      Item Help       │
  │ System Temperature                   ├──────────────────────┤
  │ CPU Fan Speed                        │ Menu Level    ▶      │
  │ +2.5V                                │                      │
  │ Vccp                                 │                      │
  │ +3.3V                                │                      │
  │ +5V                                  │                      │
  │ +1.5V                                │                      │
  │                                      │                      │
  │                                      │                      │
  │                                      │                      │
  │                                      │                      │
  │                                      │                      │
  ├──────────────────────────────────────┴──────────────────────┤
  │ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
  │   F5: Previous Values    F6: Fail-Safe Defaults   F7: Optimized Defaults │
  └───────────────────────────────────────────────────────────────┘
```

System/CPU Temperature, CPU Fan Speed, +2.5V, Vccp, +3.3V, +5V, +1.5V

These items display the current status of all of the monitored hardware devices/ components such as CPU voltages, temperatures and all fans' speeds.

4.10 Frequency/Voltage Control

```
                     Phoenix - AwardBIOS CMOS Setup Utility
                             Frequency/Voltage Control
    ┌─────────────────────────────────────────┬──────────────────────────┐
    │   AGP Clock Control        [Default]     │       Item Help          │
    │ x AGP Clock Value              66        │                          │
    │   AGP Voltage Adjust       [1.5 V]       │  Menu Level    ▶         │
    │   DRAM Voltage Adjust      [Auto]        │                          │
    │   PCI Clock Auto Detect    [Enabled]     │                          │
    │                                          │                          │
    │                                          │                          │
    │                                          │                          │
    │                                          │                          │
    │                                          │                          │
    │                                          │                          │
    │                                          │                          │
    │                                          │                          │
    │                                          │                          │
    ├──────────────────────────────────────────────────────────────────── │
    │ ↑↓←→:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
    │    F5: Previous Values     F6: Fail-Safe Defaults    F7: Optimized Defaults │
    └──────────────────────────────────────────────────────────────────── ┘
```

AGP Clock Control

This item allows users to set the AGP clock manually or by default. Options: *Default, Manual*.

AGP Clock Value

When **AGP Clock Control** is set to *Manual*, users can key in a DEC number between 66 and 120.

AGP Voltage Adjust

AGP voltage is adjustable in the field, allowing you to increase the performance of your AGP display card when overclocking, but the stability may be affected.

DRAM Voltage Adjust

Adjusting the DDR voltage can increase the DDR speed. Any changes made to this setting may cause a stability issue, so *changing the DDR voltage for long-term purpose is NOT recommended*.

PCI Clock Auto Detect

This feature enables the BIOS to auto detect PCI device and set PCI slot clock.

NOTE: Changing CPU Ratio/Vcore could result in the instability of the system; therefore, it is NOT recommended to change the default setting for long-term usage.

5

Media Center Deluxe III

5.1 What is media center deluxe III

Media Center Deluxe III is a brand-new platform for playing multimedia programs, including TV, radio, video, MP3, pictures and games. We have integrated all kinds of multimedia utilities into the Media Center Deluxe III. Instead of complicated operations and processes, there are only simple and bright buttons left on the Media Center Deluxe III, and what you need to do is just to click the button that is suitable for the aged and the children who are not familiar with the operating of the PC. Due to the fact that Media Center Deluxe III is highly integrated, and may consume a lot of PC resource, we strongly suggest that you install it on the PC running Windows 2000/XP to get the best performance.

MSI | ***MSI Remind you...***
If you want to use the TV function in the Media Center Deluxe III, please check whether your system has equipped the optional TV tuner card (MS-8606). If yes, please complete the driver and application installation for the TV tuner card.
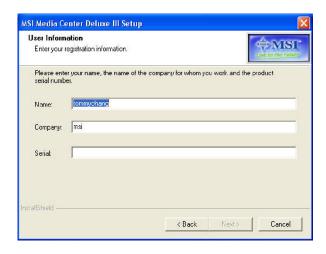
5.2 installing media center deluxe III

Insert the attached CD to install Media Center Deluxe III. The "Autorun" program will execute itself, and follow the instruction to install the Media Center Deluxe III.
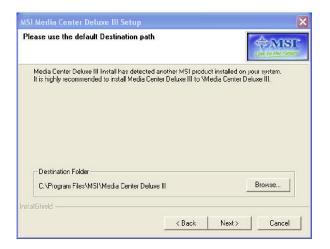
1. Click **Next** to continue.

2.   Enter user's information and click **Next** to continue.
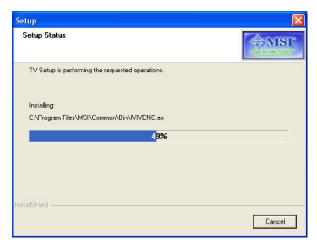
3.   The Media Center Deluxe III will be installed to the default folder or your preferred one. Click **Browse** to point to the preferred folder. Click **Next** to continue.

4. It will be installed with the default title of **MSI Media Center Deluxe III**. You can edit a preferred title for it. Click **Next** to continue.

5. The status bar shows the installation process.

6. Click **Finish** to complete the Media Center Deluxe III installation.
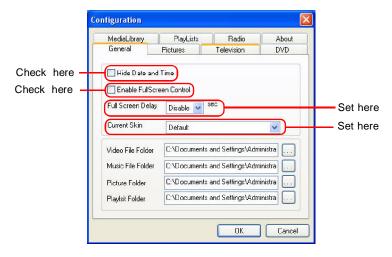
5.3 Setting the media center deluxe III

Once you have installed the Media Center Deluxe III, a pop-up window appears asking you to configure your system before entering the Media Center Deluxe III. **You can click OK** to skip the process, and then change these settings in the Media Center Deluxe III later.

You can also exit the Media Center Deluxe III and enter the setting processes again by clicking the icon on the desktop or the shortcut in the following path.

5.3.1 General

Hide Date & Time
You can decide whether the date & time to be displayed on the top of your Media Center Deluxe III.

Enable FullScreen Control
You can check here to enable the full screen control.

Full Screen Delay
When you are playing a multimedia file, the file will be played in full screen after full screen delay time.
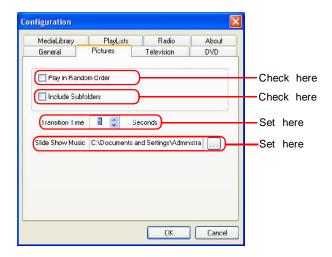
Current Skin
You can change the skin for your Media Center Deluxe III. The default skin is provided only currently.

Video / Music / Picture / Playlist Folder
The folder of the playing video / music / picture / playlist can be changed as you want. Click [...] to change the folder.

5.3.2 Pictures

Play in Random Order
Check the box next to this option, and the pictures will be played at random when using slideshow.

Include Subfolders
Check the box next to this option, and those pictures in the subfolders will be played when using slideshow.
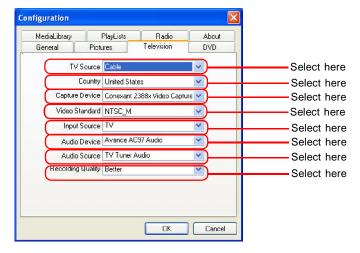
Transition Time
You are allowed to set time for picture slideshow. Take the window above as an example, when you use slideshow to view pictures, the picture shifts to next one after 2 seconds.

Slideshow Music
You can choose a song as the background music when using slideshow. Click [...] to find a song.

5.3.3 Televsion

Select here (×8)

TV Source

You can set the TV source. Option: **Cable** and **Antenna**.

Country

Select the country where you are.

Capture Device

This item will show the video capture chipset that your tuner card is using.

Video Standard

Select the proper video standard for your area from the dropdown menu. The options available depend on the standards supported by the input source. Usually you do not have to select the standard because this item will change automatically according to the region or country you choose. A brief explanation for the different standards is given below.

When the National Television Systems Committee (NTSC) prepared the standards for commercial television broadcasting in the United States, Canada, Japan, and parts of Central and South America, they decided on 525 lines of display at thirty frames per second. In most of Europe, Australia, and parts of Central and South America, however, the Phase Alteration Line (PAL) standard, using 625 lines at 25 frames per second, was used. In addition, each TV system uses a slightly different range of TV frequencies.

Input Source
You can choose the source of video from cable TV, video device with S-Video connector or video device with Composite connector.

    TV   - Source from cable TV
    S-Video   - Source from device which supports S-Video output
    Composite - Source from device which supports composite output

Audio Device
This item will show the audio chipset that your PC is using.
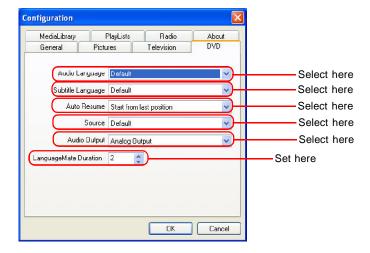
Audio Source
This item will show the audio source that your PC is using. The options in this item may vary according to the hardware of your PC. We strongly suggest that you choose **TV Tuner Audio** as default audio source .

Recording Quality
This item allows you to set the quality of recording video.

5.3.4 DVD

Audio Language
The DVD will be played in the language that you choose, if supported.

Subtitle
The DVD will be played with the subtitle that you choose, if supported.

Auto Resume
The video will be played from the position that you choose. Option: **Strat from beginning** or **Start from last position**.

Source
The DVD will be played from the DVD-ROM drive. If you have installed other DVD-ROM drives, please select the preferred one.
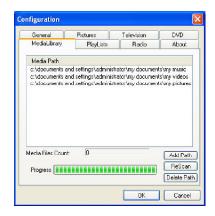
Audio Output
You can adjust the audio output according to your audio equipment.

LanguageMate Duration
The DVD will be repeated with the duration. This function is helpful for language learning.

5.3.5 MediaLibrary

Add / Delete Path

The location of the media files can be added / delected in advanced. When playing multimedia files in the Media Center Deluxe III, those files in the locations above will be used. Click **ReScan**, the Media Center Deluxe III will resume the content of the media library.

5.3.6 PlayLists

Add / Delete Path

The location of the play lists can be added / delected in advanced. When playing music files in the Media Center Deluxe III, those play lists in the locations above will be used. Click **ReScan**, the Media Center Deluxe III will resume the content of the play lists.

5.3.7 Radio
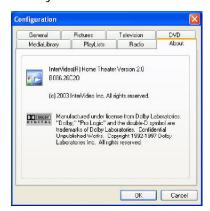
Each area has its proprietary frequency range. If you are unable to receive some stations in your area, there might be the inporper setting in this option. Check the porper radio box to correct the problem. The range for each area is listed below:

Others(Europe) --- 87.5 ~ 108.0 MHz
Japan   --- 76.0 ~ 91.0 MHz
USA   --- 87.9 ~ 107.9 MHz
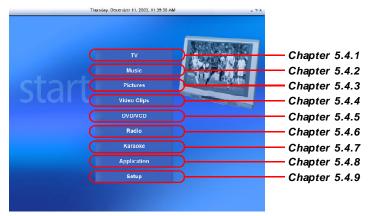
5.3.8 About

This tab shows some information of the Media Center Deluxe III. The version showed in the picture is for reference only.
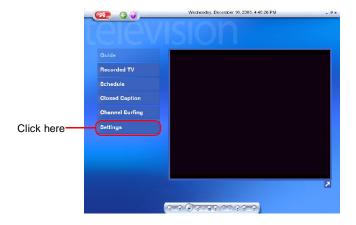
5.4 using the media center deluxe III

Click the Media Center Deluxe III icon [icon] on the desktop, the main page of the Media Center Deluxe III will show as below:

Chapter 5.4.1
Chapter 5.4.2
Chapter 5.4.3
Chapter 5.4.4
Chapter 5.4.5
Chapter 5.4.6
Chapter 5.4.7
Chapter 5.4.8
Chapter 5.4.9

5.4.1 TV

Click **TV** to activate the embedded application for watching TV. Your screen may be invalid for the first time. Please click **Settings** to scan the available channels.

Click here

Settings

Click **AutoScan**, it will automatically scan all available channels for content. The number of channels available varies depending on whether you are using an antenna or cable TV. While it is scanning for channels, each channel will briefly appear in the display window. When channel scanning is finished, return to the previous window.

Return to the previous window

Click here

Refer to *chapter 5.3.3*
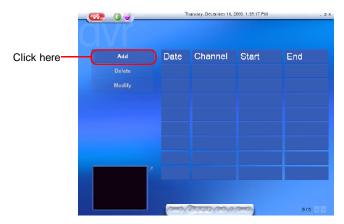
Recorded TV

Click **Recorded TV**, you can play the recorded TV clips in your hard disk drive (The location of these recorded TV clips has been specified in *chapter 5.3.1*). Double click the file name to play.

Schedule

Click **Schedule**, you can enter the recording schedule screen. Click **Add** to program a once/weekly/daily recording; in addition, you can click **Delete** or **Modify** to delete or modify the existen schedule.

Click here —

Closed Caption

In some area, the TV programs come with hided caption. Click **Closed Caption** to show or hide the caption.

Channel Surfing

When watching TV, click **Channel Surfing** to display a 4x4 grid of channel images in the display window for a quick overview of available programs.

Thumbnail images will begin to appear in the display window. You may preview a program by clicking once on the image. The program will be displayed for three seconds, then surfing will resume. If you decide that you would like to jump to that program, double-click on the image.

5.4.2 Music

Click **Music,** you can play music from your pre-programmed playlists or CD.

My Location
The Media Center Deluxe III will play the music files from your optical drives.

View Library
The **Library** share the same content with that of the Microsoft® Media Player® is listed in this window. Please edit the Microsoft® Media Player® library in advance.

View Playlists
The **playlists** share the same content with that of the Microsoft® Media Player® is listed in this window. Please edit the Microsoft® Media Player® playlist in advance.

Save Playlist
You can save the playlist as your favorite. The format of the music must be MP3.
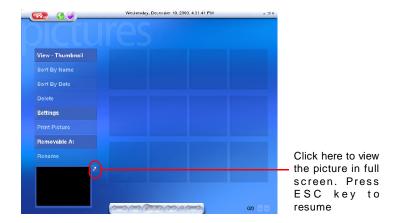
Setting
You can enter this window for detailed settings.

5.4.3 Pictures

Click **View Pictures,** you can view pictures from a specified folder.

Click here to view the picture in full screen. Press ESC key to resume

Sort by Name / Sort by Date
The pictures can be sorted by name or date as you like.

Settings
Please refer to *chapter 5.3.2.*

Print Picture
Click this button to print the playing picture.

5.4.4 Video Clips
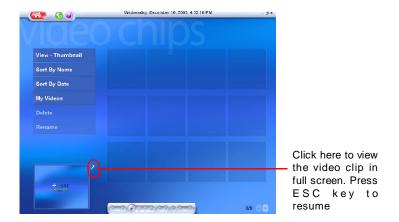
Click **Video Clips,** you can watch video clips from a specified folder. Double click the thumbnail to watch it in full screen.

Sort by Name / Sort by Date
The video clips can be sorted by name or date as you like.

My Location
The Media Center Deluxe III will play the video clips from your optical drives.

Click here to view the video clip in full screen. Press ESC key to resume

5.4.5 DVD / VCD

Click **DVD / VCD** to watch DVD ro VCD.

Settings / Start LanguageMate
Please refer to *chapter 5.3.4.*

Vocal
There are left, right and both vocal for your selection.

Sound Effect
You can choose a virtual sound effect for the playing DVD / VCD. These virtual sound effects are None, Rock, Bass, Hall, Soft, Vocal, Echo and Karaoke.

●●●●●●●●●●●●●●●●●●●●●●●●●●●●●●**5-19**

5.4.6 Radio

Click **Radio** to listen to broadcasts.

Sort by Name / Frequency
These stations can be sorted by name or frequency as you like.

AutoScan
When first launch the radio player, please click **AutoScan** to add all available stations to your station lists. Double click the station name to listen to the station.

Add / Remove Station
Click **Add / Remove Station** to add / remove a station.

FM /AM
You can swich between FM and AM by clicking this button.

5.4.7 Karaoke

Click **Radio** to listen to broadcasts.

Settings / Start LanguageMate
Please refer to *chapter 5.3.4.*

Vocal
There are left, right and both vocal for your selection.

Sound Effect
You can choose a virtual sound effect for the playing DVD / VCD. These virtual sound effects are None, Rock, Bass, Hall, Soft, Vocal, Echo and Karaoke.
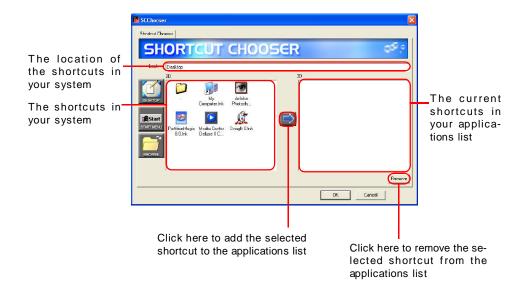
5.4.8 Application

Click **Application** to quick launch an application.

Click here to execute the application
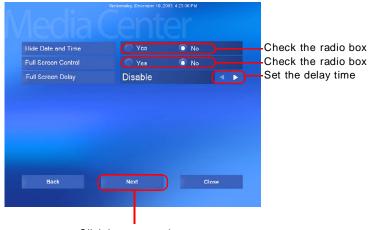
Settings
Click Settings to edit the applications list.

The location of the shortcuts in your system

The shortcuts in your system

The current shortcuts in your applications list

Click here to add the selected shortcut to the applications list

Click here to remove the selected shortcut from the applications list

5.4.9 Setup

Click **Setup,** the window shows step-by-step procedures guiding you to personalize your Media Center Deluxe III.

Click here to continue

Hide Date & Time
You can decide whether the date & time will be displayed on the top of your Media Center Deluxe III.

Full Screen Control
You can decide whether to control the full screen display.

Full Screen Delay
When you are playing a multimedia file, the file will be played in full screen after full screen delay time.

TV Source
You can set the TV source. Option: **Cable** and **Antenna**.

Country
Select the country where you are.

Video Capture Device
This item will show the video capture chipset that your tuner card is using.

Input Source
You can choose the source of video from TV cable, video device with S-Video connector or video device with Composite connector.

Video Standard
Select the proper video standard for your area from the menu. The available options depend on the standards supported by the input source.

Audio Device
This item will show the audio chipset that your PC is using.

Audio Source
This item will show the audio source that your PC is using. The options in this item

may vary according to the hardware of your PC.

Recording Quality
This item allows you to set the quality of recording video.

Transition Time
You are allowed to set time for picture slideshow. Take the window above as an example, when you use slideshow to view pictures, the picture shifts to next one after 2 seconds.

Play in Random Order
Check the box next to this option, and the pictures will be played at random when using slideshow.
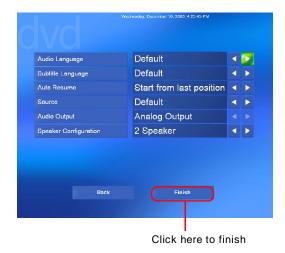
Include Subfolders
Check the box next to this option, and those pictures in the subfloders will be played when using slideshow.

Transition Effect
Check the box next to this option, there would be a transition effect when shifting to the next picture.

Background Music
This item shows the current location of the background music when using slideshow.

Click here to finish

Audio Language
The DVD will be played in the language that you choose, if supported.

Subtitle Language
The DVD will be played with the subtitle that you choose, if supported.

Auto Resume
The video will be played from the position that you choose. Option: **From beginning** or **From last position**.

Source
The DVD will be played from the DVD-ROM drive. If you have installed other DVD-ROM drives, please select the prefered one.

Audio Output
You can adjust the audio output according to you audio equipment.

Speaker Configuration
You can set the play mode for the speaker.

5.5 Using the remote Controller

You can use the attached remote controller to control TV as you do in the living room. Check the following note if your remote controller doesn't function.

MSI
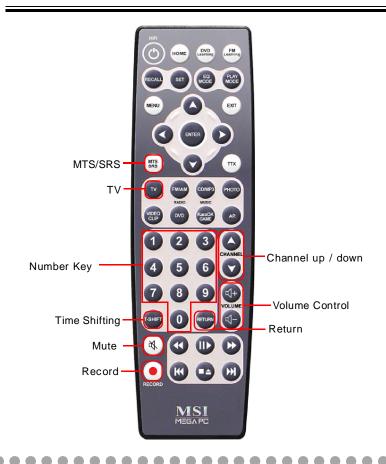
What if the TV Tuner Card is installed correctly...

What if all necessary cables are connected...

What if the TV Tuner Card driver and the application are installed...

What if the batteries are installed in the remote controller...

MTS/SRS

TV

Number Key

Channel up / down

Volume Control

Time Shifting

Return

Mute

Record

5-27

TV
Press the power button under operating system to launch Media Center Deluxe III or MSI PVS alone (if Media Center Deluxe III is not installed). If the MSI PVS is not installed, the power button is void.

Number Key
You can enter the numbers of channel directly to shift to the channel you want.

Return
You can press the return button to shift to the previous channel.

Time Shifting
The Timeshifting button allows you to pause, replay, or skip commercials during live TV, without interrupting an ongoing recording session. Timeshifting gives you absolute control over how you watch television. You can take a break watching a live show, and pick up where you left off, or instantly jump back to live view.

MTS/SRS
You can activate the MTS/SRS audio effect if the playing TV channel supports.

Mute
Press the mute button to mute and again to resume.

Channel up/down
You can press the channel up/down button to shift to the previous/next available TV channel.

Volume Control
Press up / down button to increase / decrease the volume.
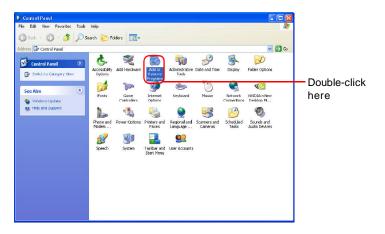
Record
You can press this button to record the playing TV program instantly.
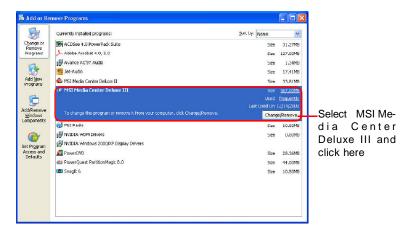
5.6 Uninstall

Follow the steps below to uninstall the Media Center Deluxe III:
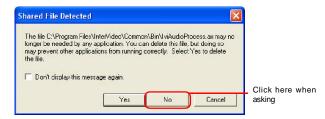
1. Click **Control Panel** icon in the **Start** menu.

2. Find and double-click **Add or Remove Programs** icon.

Double-click here

3. Select the program that you want to remove. Click **Change/Remove** to continue.

Select MSI Media Center Deluxe III and click here

4. Please *DO NOT REMOVE THE SHARED FILES*. Always click **No** to continue.

Click here when asking

5. Click **Finish** to complete the uninstallation.

6

Wireless LAN Card
(for Deluxe Model)

6.1 Introduction

MSI Wireless LAN Card, compliant with IEEE802.11b, is a high-efficiency wireless adapter for wireless networking at home, in office or in public places. The data transfer rate can be auto-negotiated to 1, 2, 5.5Mbps or up to 11Mbps, and is compatible with any existing IEEE802.11b devices.

With MSI Wireless LAN Card, you can roam between conference room and office without being disconnected the LAN cables; in addition, sharing files and printers can be easy tasks.

MSI Wireless LAN Card is available to Microsoft Windows operating systems (Windows® XP/2000/ME/98SE) and can be integrated into networking with either **Ad-hoc mode** (computer-to-computer, without an Access Point) or **Infrastructure mode** (computer-to-access point, an Access Point is required).

6.1.1 Hardware Specifications

Compliant Standards
- IEEE802.11b

Bus and Connector Types
- 32-bit 3.3V Type IIIA
- 124-pin Golden Finger

Security Mechanism
- Hardware-based WEP Privacy

Operational Environment
- Operational Temperature: 0~55°C
- Humidity: 10~90% (Non-Condensing)

Weight and Dimension
- Weight:12g
- Dimension: 50.8 x 59.6 x 4.9mm

6.1.2 Radio Frequency Specifications

Raw Data Rates and Modulation Types
- IEEE802.11b (Auto-Fallback)
    CCK: 11 and 5.5Mbps
    DQPSK: 2Mbps
    DBPSK: 1Mbps

Communication Protocol
- DSSS (Direct Sequence Spread Spectrum) with ACK
- Half-Duplex

Access Method
- Infrastructure Mode: Station-To-LAN Architecture
- Ad-Hoc Mode: Station-To-Station Architecture

6.2 Wireless network utility

After installing the driver, MSI Wireless LAN Card provides a convenient and powerful utility that allows you to set up, configure, and know your networking status easily and clearly.

6.2.1 The MSI Wireless LAN Icon

- Not connected to the network.
- Connected to the network.
- Receiving/transmitting data from/to the network.

When you move the mouse over the icon, it shows the current connection information.

Wireless Network Connection ✕
Connected to: MSI
Signal Strength: Excellent

🔵 **Right-clicking** the icon will bring up a sub-menu containing more settings:

Language ▶
Switch to AP Mode
Switch to Gateway mode
Open Network Connections
View Available Wireless Networks

Exit

Language
You can select language according to your operating system.

Switch to AP Mode (optional)
If your MSI wireless LAN adapter supports Software AP function, you can see this item in the sub-menu, and which allows you to use your MSI wireless adapter as a virtual access point. For details, refer to the *MSI Software AP/Gateway User's Guide.*

Switch to Gateway Mode (optional)
If your MSI wireless LAN adapter supports Software Gateway function, you can see this item in the sub-menu, and which allows you to use your MSI wireless adapter as a virtual gateway. For details, refer to the *MSI Software AP/Gateway User's Guide.*

Open Network Connections
Select to open the Network Connections window.

View Available Wireless Networks
Launch the utility to configure your network settings.

Exit
Close the program.

◒ **Clicking** the icon will launch the utility as shown below to configure your network settings.

Wireless Network Connection

The following wireless networks are available. To access a wireless network, select it from the list, and then click Connect.

Available wireless networks:

♀ MSI

This network requires the use of a network key(WEP). To access this network, type the key, and click Connect.

Network key:

If you are having difficulty connecting to a network, click Advanced.

[Advanced]   [Connect]   [Cancel]

6.2.2 Changing the Control Setting(for Windows XP Only)

If you use Windows XP, the wireless LAN is controlled by the operating system (default). To take full advantage of your MSI wireless adapter, it is recommended to use the MSI Wireless Network Utility to control your wireless LAN.

⚪ **To change the control setting:**

   1. Right-click the MSI Wireless LAN icon and select the **Open Network Connections** option.
   2. In the **Network Connections** window, double-click the Wireless Network Connection icon to bring up the following dialog window.

Double-click

Click

3. Click *Advanced*, and the **Properties** window will appear as below.

Uncheck this option

Click

4. Uncheck the **Use Windows to configure my wireless network settings** option. Then, click *OK*.

5. Now, you can use MSI Wireless Network Utility to configure your network.

6.3 networking

Since the UB54G is installed in your computer, you have to configure the settings for communication to start working in your network environment.
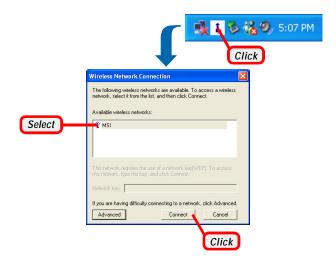
6.3.1 Infrastructure Mode

Infrastructure mode allows your computer to communicate with the other computers in the network through an Access Point. The following tasks should be done before you configure the settings:

- The Access Point must be turned on.
- Your computer with wireless adapter installed and the Access Point must be located with the communication range of the Access Point (see the Access Point's manual for details).

○ **Connecting to the Access Point:**
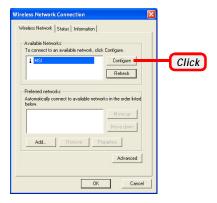
1. Click the MSI Wireless LAN icon to bring up the **Wireless Network Connection** window.
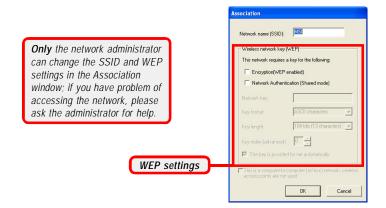
2. In the list of Available wireless networks, select (highlight) the network you want, and then click **Connect**.
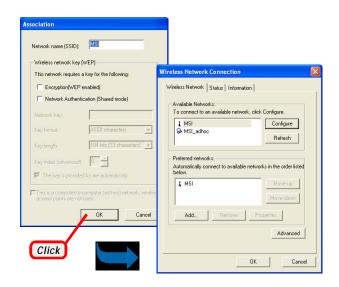
🔍 **If you want to configure the network settings:**

1. Click **Advanced** in the Wireless Network Connection window.

2. The Available Networks field contains a list of available Access Points in your network. Select (highlight) one network you want, and then click **Configure** to set up the selected network. You can click **Refresh** to search the available Access Points in the network again.

Click

3. Setup the Network Key (if needed) in the Wireless Network Key (WEP) field according to the network's settings.

Only the network administrator can change the SSID and WEP settings in the Association window; if you have problem of accessing the network, please ask the administrator for help.

WEP settings

> **4.** Click **OK**. The selected network will appear in the Preferred Networks field. If it contains two or more networks in the list, you can use **Move up/Move down** to set the priority.

> **5.** Click **OK** to complete the configuration, and an icon indicating connected to the network will appear in the status area.
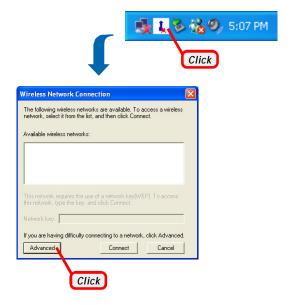

connected

6.3.2 Ad-hoc Mode

Ad-hoc mode allows your computer to communicate directly with any computer installed with compatible wireless adapter. If you want to use the network in Ad-hoc mode:
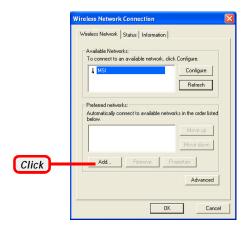
- All the computers connected should be set to Ad-hoc mode.
- The computers have the same SSID (network name) setting.
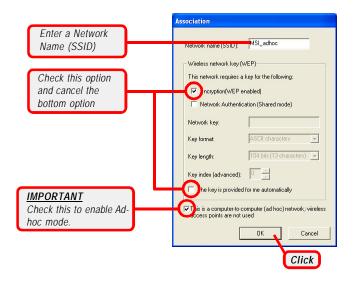
❍ **To configure the settings:**

1. Click the MSI Wireless LAN icon to bring up the **Wireless Network Connection** window. Then, click *Advanced*.

2. You can build up the Ad-hoc network by clicking **Add** in the Preferred Networks field.

Click

3. Set up the Network Name (SSID) and Network Key (if needed) for the network. Then, check the **This is a computer-to-computer [ad hoc] network; wireless access points are not used** option and click **OK** to enable the Ad-hoc mode.

Enter a Network Name (SSID)

Check this option and cancel the bottom option

IMPORTANT
Check this to enable Ad-hoc mode.

Click

4. The computer set up with this Ad-hoc network in *step 3* is the designated administrator of the network. Any computer can access the network by selecting *Connect* in the Wireless Network Connection window.
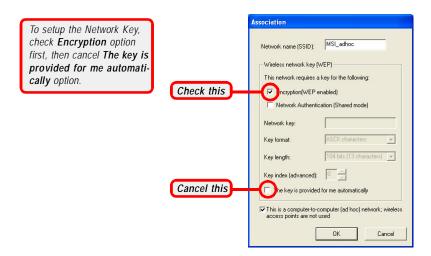

Click

5. Click *OK* to complete the configuration, and an icon indicating connected to the network appears in the status area.

connected

6.4 Encryption

In the wireless network environment, the administrator can set up password (Network Key) to protect the network from being attacked or unauthorized access. When building the network, you can set up 4 sets of WEP keys, which can be 5 characters (10 hex-adecimal digital) or 13 characters (26 hex-adecimal digital) and specify one of them to use.

*To setup the Network Key, check **Encryption** option first, then cancel **The key is provided for me automatically** option.*

Check this

Cancel this

Network key
Enter a key for the network.

Key format
You can decide the network key to be encoded by ASCII characters or hexadecimal digitals.
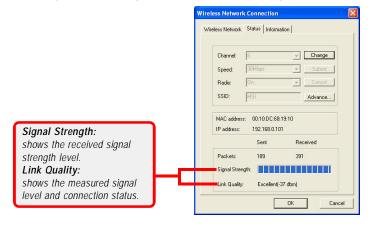
Key length
In ASCII characters format, it can be 5 or 13 characters. In hexadecimal digitals format, it would be 10 or 26 digitals.

Key index
There can be up to 4 sets of WEP key (1~4). The 4 sets of WEP key must have the identical sequence with the key settings on the Access Point.

6.5 Status

In the **Status** tab, you can configure more network settings.

Signal Strength:
shows the received signal strength level.
Link Quality:
shows the measured signal level and connection status.

Channel
Specifies the operating radio frequency channel in Ad-hoc mode, which should be set to the same channel as the other points in the wireless network.

Speed
This field sets the current transmitting rate. The speed should be set to *Auto* rate to optimize performance and range, which will adjust the transfer speed for best performance and longest range automatically.
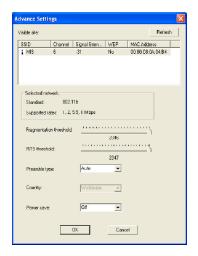
Radio
Set to *On* to activate the radio.

SSID
Means Service Set Identifier, a unique name shared among all points in a wireless network. It must be identical for all points in the network. Then the card will be able to connect to an access point with the same SSID.

Click *Advance*, and you can get more information about the LAN traffic status and more detailed settings.

It is not recommended to change these settings if you are not familiar with the advanced configuration.

Fragmentation Threshold
You may set the length of the fragment in this field. Please note that each fragment should not be larger than the Fragmentation Threshold.

RTS/CTS Threshold
You may set the length threshold.

Preamble Type
You may set the length of preamble in this field. The available options are:

> *- **Long**: It is set to 144 bits.*
> *- **Short**: It is set to 72 bits.*
> *- **Auto**: The card supports an auto-detection feature,*
>   *it will automatically select the **Preamble Type***
>   *depending on the Access Point Preamble Type if this*
>   *option is selected.*

Country
Display the country that you are in (read only).

Power save
The card will turn into power save mode when idle.

6.6 information

In the **Information** tab, you can get some information about the manufacturer, hardware and software.